University of Strathclyde

Department of Education and Professional Studies

Young people, their parents and their food choices: the impact of an intervention programme to improve food knowledge

by

Annette Ferri

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Declaration of Author's Rights

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Young people, their parents and their food choices: the impact of an intervention programme to improve food knowledge

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Abstract

This thesis examines issues, in three primary schools and one secondary school in Scotland, which influence food choice in a small cohort of young people and their parents. It records a process of enquiry using a case study approach involving qualitative methods which allowed several themes and patterns concerned with eating habits and food choice to emerge. The construction of an intervention programme using action research involving parents and children was also included in the research design. This lead to a conclusion that these data collection methods proved to be powerful tools in extracting information such as the importance of involving young people directly in any study about their lives. The findings and use of a healthy eating intervention programme is also discussed. The study concluded that a framework where parents/carers and their children worked together in schools to prepare and cook a variety of healthy dishes was a way of providing practical food skills and food knowledge. This working model can be adapted to support healthy eating initiatives already introduced by the Scottish Government enabling schools to work in partnership with parents to improve food choice and eating habits.

The review of literature shows that obesity and other diet-related illnesses in children are on the increase and have an impact on physical, mental and social health. The Scottish Government acknowledges that nutrition and food choice are considered to be key factors influencing the future health and well-being of young people and have introduced a range of initiatives to improve food choice. However, a lack of research, involving young people themselves, has resulted in speculation and perceptions from an adult perspective, rather than from a child's point of view.

The uniqueness of this research lies in the context of the study setting. The findings, from the research conducted in schools with parents and pupils, show that parents and carers play a crucial part in shaping the eating habits and food choice of the children in their care. The concept of empowerment is particularly important in this study. It is about everyone, regardless of socio-economic background, having the knowledge about food to make informed choices about his or her health in relation to the food they eat.

The study also identifies a number of avenues for further research, including the need to evaluate educational policy in relation to food education on the school curriculum, focussing on when and where (food education) food preparation and cooking skills are taught throughout every stage of the life's course.

Glossary

5-14 Curriculum	Curriculum in Primary schools and the first two years of Secondary education in Scotland.
A Curriculum for Excellence	Scottish Government proposals to transform Scottish education.
Action Research	Research emphasising participation of research collaborators and a cyclical approach to enquiry respectively.
Attainment	Assessed performance in 5-14 curriculum or in National Qualifications, e.g. Standard Grades.
Cooking Skills	A set of practical techniques or tasks e.g. stewing, boiling, roasting.
Cooking from Scratch	Turning raw ingredients into a dish
HMI	Her Majesty's Inspector of Schools.
HMIE	Her Majesty's Inspectorate of Education.
Hungry for Success (2002)	Introduction of national guidelines for national, nutrient defined standards for school meals in Scotland.

1 The Outline and Purpose

1.1 Introduction

Poor diet is a significant contributor to Scotland's poor health record. Improving children's diet can make a major impact on the health of children with beneficial outcomes for educational attainment and improved health in later life (Hungry for Success, Scottish Executive, 2003, p.15).

The above quotation endorses the rationale behind this Research Thesis. The study examines issues surrounding factors influencing food choice in young people and their parents. This study recorded a process of enquiry using a qualitative case study approach and it also examined the impact of an intervention programme with parents and children designed to improve food choice, since much research produces some form of evaluation and the issues to do with change (Robson, 2002). The action research approach, used in the intervention part of the study, highlighted how a programme of food preparation skills with adults and children could be implemented in primary and secondary schools. The approach helped identify barriers to implementation and offered suggestions as to how these barriers could be overcome.

As a teacher/researcher, growing concern regarding the dietary habits of parents and their children was the first step towards increasing my knowledge and understanding in this complex area of food choice. This choice has many ramifications since research is showing that the choice of food can have an effect not only on health but also on cognitive development.

Not only does poor food choice affect long-term health but it has also a major influence in physical and mental growth in early life when even moderate under-nutrition can have lasting effects on the cognitive development of children (Beard *et al*., 1993; Pollitt, 1994). This finding was a key factor

influencing the initial phases of this study: an investigation into factors affecting food choice in a small group of children and their parents. The study, which is the basis of this thesis, is located within the context of health promotion and food education in schools in Scotland. However, the research base extends beyond these areas.

Concern about food choices that may have adverse effects on health is widespread in the developed world, and is embodied in documents such as *Eating for Health: a diet action plan for Scotland* (Scottish Office, 1996) and *Improving health in Scotland-The challenge* (Scottish Executive, 2003). The type of food that children are now eating on a daily basis and the causes and effects of a poor choice of diet are well documented. It is also acknowledged that food choice can be influenced by a wide range of complex and often interrelating factors such as social, economic and cultural aspects (Shepherd, 1992).

The subject of this research is important because studies show that the health of people in Scotland and life expectancy is poor when compared to other European Nations (Scottish Office, 2000).

An examination of data on the Scottish diet (Blades, 2004) reveals circa 300 initiatives in Scotland designed to improve information about diet and availability of *healthy choices*. However, many of these initiatives have had limited success in improving this important area of concern regarding the eating habits of young people. Nutrition and food choice are known to be key factors influencing future health and well being in young people. Excess body weight, obesity and other diet-related illnesses in children are urgent contemporary sensitive issues. Halting the rising prevalence of childhood obesity is a public health priority, since obesity in younger people gives us an early warning sign for future health. Obese people are at high risk of multiple health problems and need full medical management to provide treatment for

health-related illnesses, which presents enormous financial burdens for future generations (Lara, Lean & Hill, 2006).

Although it is not within the scope of this study, the role of physical activity must be acknowledged. Physical activity levels in young adults are low (Woods, Mutrie & Scott, 2002). Increasing physical activity and achieving an energy balance in the body is an important part of a health promotion strategy.

To address the various health problems associated with eating habits, the Scottish Government, aware of this important health issue, has introduced a variety of measures to improve children's health. A major healthy eating campaign was launched in Scotland (2003) challenging Scots to alter their lifestyle with a change in diet. The main aim of this particular initiative was to provide funding to inform, educate and inspire people to make dietary changes. This campaign complemented a previous initiative *Hungry for Success* (Scottish Executive, 2003), which was designed to improve the quality of food provision in schools. However, in spite of this and the preceding 300 initiatives in place (Blades, 2004) obesity and other diet related illnesses are still on the increase. At the time of writing in January 2009, the general situation had not improved, given that there had been a decided increase in child obesity. Figures published by the Scottish Government in 2006 show that one third of Scottish schoolchildren are over-weight. One in five is obese by the time he or she reaches the age of twelve. The latest report issued by the Scottish Government (2008) stated that the National Health Service in Scotland is spending five million pounds a year on anti-obesity drugs and is in the process of taking steps to avert the onset of unhealthy weight, particularly early in life. The report also states that over the next three years some £56.5 million will be spent on the issues of obesity, healthy eating and physical activity initiatives.

Concerned about children's welfare, an initiative has been introduced to improve the quality and provision of school food. A recent evaluation of *Hungry for Success* by HM Inspectorate of Education questions whether this

initiative will, by itself, have the desired outcomes for Scotland's children and young people and create a healthier Scotland (2008). A research study by Philip *et al*., (2003) in relation to the dissemination or the communication of knowledge about new initiatives or programmes of work, expressed concern about how this knowledge is made available to the appropriate sector. This concern could equally apply to healthy eating or food initiatives. The authors of the study go on to say that ways must be found to encourage better links between research and how it is put into practice. The paper concluded that potential exists for an interactive model of dissemination of information, in the field of health promotion in relation to children and health inequalities, particularly in the light of change in Scotland with the setting up of a new parliament in Edinburgh.

The welfare of children and the reduction of health inequalities lie at the heart of current UK government policies. Although international research studies have demonstrated that childhood is a pivotal stage for interventions in relation to health inequalities little research has taken place about how such inequalities are being created and recreated on a daily basis (Philip *et al*., 2003). Communicating with parents and children to improve information about influences on food choices and food preparation within an educational setting can help towards addressing this gap. Research in this area locates these important issues around health and eating habits in wider debates about linking research with policy and practice (Philip *et al*., 2003).

The importance of food education in the context of this study cannot be under-estimated. Significant challenges remain to improve the overall health of Scotland's children and young people and raising the level of food knowledge in young people is one of those challenges. Strategies, to provide sufficient opportunities for all young people to develop skills in practical food preparation in an educational setting, are vital for encouraging them to choose and prepare healthy meals (HMIE, 2008).

1.2 Purpose and direction of the study

There were three main purposes of the study: firstly, as previously mentioned, it would help in the promotion of public debate regarding the inclusion of food education at every stage in the school curriculum. The qualitative research approach in the study highlights the complex area of food choice in young people and their parents; secondly, it has the potential to make policy-makers aware of the issues regarding food education in Scotland's schools; thirdly, the model of research, that derived from action research in the intervention programme, explores a way of linking knowledge and practice in relation to working with parents and children.

The first of these aspects arose from the author's interest as a classroom teacher, the receipt of two teaching scholarships awarded by the General Teaching Council for Scotland and the intellectual challenges of a Master of Science degree. The second aspect, which provided a particular focus within this study, came from the author's teaching experience in Home Economics and working with pupils to further health promotion in primary schools.

The third aspect was the uniqueness of this research which lies in the context of the study conducted in several schools. The study required time from the curriculum, and because the research involved children in schools it can prove problematic. However, the development of curriculum support materials for *Hungry for Success*, Home Economics and the 5-14 curriculum provided valuable data collection opportunities. Being a classroom teacher gave access to several year groups in primary and secondary schools without disruption to the school day.

This was a study of *an instance in action* (Adelman *et al.,* 1980) and provided an example of real people in real situations. However, the study was unique in its construction because of the inclusion of an intervention programme

involving parents and children. As well as the participants in the study gaining important background knowledge about food choice, the working model, outlined in this study, could be developed and adapted for use in other schools or situations. This aspect offered the opportunity to evaluate how parents could become involved in a dietary intervention programme designed to offer food knowledge and preparation skills and perhaps ultimately influence food choice in the family.

1.3 The professional significance of the research enquiry

There are three specific aspects to the professional relevance of this study,

- The relevance to the school curriculum in Scotland;
- The author's own professional development;
- The relevance in terms of the requirements of a professional doctorate.

Each of these areas is discussed more fully in the main part of the thesis.

The relevance of this study to the school curriculum lies in the recognition that Scotland's health is improving but not fast enough since major health inequalities persist in our society.

In an attempt to combat the rising rates of coronary heart disease and other diet related illnesses in Scotland, a major healthy eating campaign was launched in 2003 challenging Scots to change their diet, change their lives and help change Scotland. The main aim of this particular initiative was to provide funding to inform, educate and inspire people by giving them the necessary information to make changes. This campaign was also extended to the school curriculum. This focussed on interdisciplinary working by food manufacturers and other service providers. However this intervention and others were critised for failing to address the main issues such as providing information to encourage healthy eating choices, and reach the population as a whole. Bullen (2004) suggests that the apparent failure of current practice to change dietary habits suggests that we need a better understanding about children's ideas about food with a view to improving methods of teaching nutrition education.

Controversially, according to James (1998), the medical establishment finds it hard to believe that food and nutrition have much to do with public health. He stated that doctors simply have not taken on board modern nutritional concepts or the fact that moderating diet can sometimes have a greater impact than drugs. He states that one cannot generate a coherent strategy on health without including nutrition. Food education in UK schools from an early age could be the key to tackling these increasing problems thus playing a more proactive role than they do at present (James, 1998). *A Curriculum for Excellence* (Scottish Government, 2006), presents an opportunity to change attitudes to health by offering essential food education within the core curriculum. Schools are in a unique position to bridge the gap, between knowledge and practical food information, by ensuring food preparation; healthy eating messages, and the provision of healthy food in schools is linked.

The relevance of this study of how food choice affects not only health but also cognitive development lies, at least in part, in examining where individuals acquire the knowledge to make healthy food choices. It also examines the place of food education in the curriculum.

The professional relevance of this study is justified in terms of the opportunity which the academic rigours of a thesis provided for deeper understanding of the complex area of food choice in children and young people. As a cost effective measure for the prevention of diet-related illness and the encouragement of a holistic approach to health promotion, the issues emerging from this thesis present challenges to the Scottish Government, school planners and policy makers, to invest in food education in schools.

The professional doctorate emphasises personal and professional development, within the context of education (Murray, 2002). The professional relevance of the study lies not only in the improvement of practice within the profession but also in the development of academic skills required for a professional

doctorate. The relevance of the study to the professional community consists in the need for teachers, education authorities and academics, to have an awareness of the main issues affecting food choice from an adult and child's perspective. This information is valuable in assisting curriculum planners to present a persuasive case for the inclusion of food education in schools. The opportunities and intellectual challenges this presents when writing a thesis provides a supportive framework for a deeper understanding of the complex issue of parents and children's food choice. It relates well to the criteria expected of a professional doctorate, which is:

To demonstrate the specialist advanced knowledge, and understanding they have gained through their enquiry into their own professional area
 (Ed. D. Course Notes, 2007).

1.4 The aims of the study

Professional and national influences outlined in the previous section led the researcher to design a study with the following aims:

- To gain a deeper understanding of the main factors affecting food choice in parents and young people in a particular context.

- To examine critically factors affecting food choice in groups of parents and children with a view to improving professional knowledge and practice and encouraging further research.

- To provide knowledge which could influence curricular change in Scotland.

- To evaluate the impact of an intervention programme to encourage healthy eating choices as a way of providing food preparation skills to parents and children.

1.5 The research questions

These aims helped to generate four key questions which underpin this thesis.

Q1. What has been written about the nutritional habits of young people and their parents?

Q2. What are the stated dietary habits of a specific group of young people and their parents?

Q3. What do a specific cohort of parents and children consider to be the main the influences on their food choice?

Q4. What is the impact on food choice of an intervention programme in a specific cohort of adults and children?

Question 1 called for an extensive review of literature which is discussed mainly in Chapters 2 and 3. Question 2 required an analysis of the evidence arising from parent questionnaires and pupil food diaries. Question 3 indicated a more specific insight into influences on food choice from parent and pupil focus groups and individual interviews with parents. The information from the data resulted in Question 4, which used *action research* to design, implement and evaluate a programme of food preparation skills with a particular group of parents and children.

An interactive qualitative research design was used within a case study enquiry. To answer research question 4, *action research* was used during the intervention programme and this is described in detail in Chapter 4. The development work carried out in relation to the design of the study, piloting and collection of data is also outlined in Chapter 4. Chapter 5 describes the methods used to collect data. Chapter 6, 7 and 8 present and discuss the findings. The implications of the work for policy and practice, and for personal professional development are considered in Chapter 9

1.6 Summary

This chapter provided an introduction to the research study and the overall research aims of the investigation and the purposes behind it. To gain further background knowledge the next Chapter 2 will put the study into context by examining the issues surrounding policy and practice related to children health and eating habits within a Scottish context. Chapter 3 will then examine the literature in a wider context including how food choice relates to health and attainment. Lastly, it investigates whether research studies shows that intervention programmes are successful in changing attitudes and perceptions to food preparation and healthy eating.

The underlying purpose of the study outlined in this thesis was the desire to encourage policy and practice discussions in Scotland about the main factors influencing food choice in young people and their parents. The place of food education on the school curriculum was central to the study. However to place the study in context, the following chapter discusses the main issues related to the Scottish context of this particular thesis. This chapter also addresses research Question 1: *What has been written about the nutritional habits of young people and their parents?*

2 The context

2.1 Introduction

The previous chapter outlined the purposes of the study: to stimulate and develop policy and practice discussions regarding the inclusion of food education in the school curriculum: and to highlight issues surrounding food choice in young people and their parents. This chapter places the study in context and gives a brief description of the participants and phases that form part of the research. The chapter also refers to the debate surrounding the relationship between food choice and the health of young people in Scotland. Chapter 3 will then develop the broader set of contexts within which the study is set, and in particular the area of health, food choice and dietary habits of young people.

2.2 Brief outline of the participants and phases of the study

There are two distinct aspects of this work. One concentrates on exploring in depth the main factors influencing food choice in a small group of parents and children. The other is the construction and evaluation of an intervention programme designed to improve food preparation skills and food knowledge. Both aspects share a common goal; to highlight the need to provide food education and to enable parents and young people to make healthy food choices. Therefore, this work is essentially one study with two strands.

The study was conducted between September 2005 and June 2007 in three primary schools and one secondary school in one local authority in central Scotland. Permission to carry out the research can be found at Appendix 1.

These schools are identified as Primary A, B, C and Secondary D.

The study was structured in three phases:

Phase 1: At each school, after a discussion with the primary parents and Head Teachers, questionnaires and letters of consent were distributed to parents with the co-operation of the Primary Seven teachers.

Phase 2: Food diaries and group interviews with a random sample of pupils followed by focus groups and semi-structured interviews with a random sample of parents.

Phase 3: The planned intervention programme involved each school. Informal observation and evaluation from the sample was carried out during each session.

Permission from the local authorities and informed consent was sought from parents and pupils by letter; permission from the University Ethics Committee was also obtained. Ethical considerations that the researcher formulated when obtaining consent from children are explained more fully in Chapter 4.

The context is particularly relevant for this study because it is conducted in Primary and Secondary schools in Scotland. The variety of data collecting methods enabled participants to voice opinions on this particular subject.

2.3 Health context in Scotland

As has been outlined in the introduction to this chapter there has been much debate around food choice and health in relation to young people in Scotland. There are some important considerations in determining practice and policy, such as meal provision in schools, health promotion, teaching of food education, and the impact of these educational policies on children's health.

Compulsory education for children in Scotland started in 1872 and one of the initiatives used in some schools to encourage young people to attend was the provision of a free hot meal. The poor nutritional status and lack of fitness in young men enlisting to serve in the Boer War resulted in a Royal Commission

in 1902.An interdepartmental committee reported on the poor physique of volunteers which stemmed from the problem of underfed children in schools and resulted in over 350 voluntary bodies providing meals for children. Although not compulsory, it was recommended that meals should be provided in all schools and this was implemented in Scotland in the *Education (Provision of Meals) (Scotland) Act* in 1908.

By 1920 over one million children were provided with meals. It was acknowledged that a properly balanced diet could have educational benefits as well as medical ones. At the present time children of parents in receipt of income support are eligible for a free school meal.

The provision of healthy food in schools was endorsed in later years in a report by the Health Select Committee which identified education as a key factor in the development of good eating habits in children and a way forward in the drive to tackle obesity and improve long term health (Bullen, 2004).

Aware of the issues surrounding health in young people, the Scottish Government in its reports, has been active in encouraging the development of holistic approaches to education, health and care of Scotland's children and young people (2006). They hope that the provision of free fruit and milk and in some areas, free school meals, in nurseries and Primary schools will help to instil healthy eating habits at an early age. The Government's aim that every school becomes a health promoting school by 2007 and the introduction of the Scottish Executive initiative *Hungry for Success* designed to improve food provision, is designed to contribute towards helping children make good food choices.

One of the issues affecting children in Scotland and worldwide is childhood obesity. This increasing problem is raising concern about future trends of cardiovascular disease, diabetes and some cancers. Other than risks to health, obesity influences a young person's quality of life, impacting on his or her physical, mental and social health (Lara *et al.,* 2006).

The width of research material on dietary habits related to development of obesity in young children in Scotland is vast. Available figures show that nearly one in five boys and over one in ten girls aged between two to fifteen are identified as obese (HMIE, 2008). Lean (2008) states that people need better education about physical activity and diet, but a sustainable reduction in obesity will also require the food and exercise industries to work with consumers to make small changes in the environment. He goes on to say that the prevalence of obesity is already above the critical threshold of 15% set by the World Health Organization (WHO) for epidemics needing intervention.

A report produced by the U.K. Government's Foresight Programme (2007) on tackling obesity highlighted that it is one of the penalties of the modern world, where energy-dense food is abundant and labour saving technologies abound. The report acknowledged the complexities of creating, developing and sustaining healthy eating and that activity habits are challenges for society and policymakers.

Commonly sited studies include the Cross-National Study of Health Behaviour of school-aged children in Scotland (2004,2006,2009). This research is conducted every four years in collaboration with WHO. The research gives an international perspective, in relation to health and health behaviour of school-aged children. The studies, which range from eating habits to physical activity and family influence, are unique because the aim is to increase understanding of young people's health and well being over time and across countries. The HBSC studies compare the dietary habits of children in Scotland with other countries allowing in-depth comparisons to be made. The aims of these studies are to help understand what factors shape and influence children's health and other aspects of health dietary behaviour.

One of the surveys entitled *Young People's Health in Context* (2001/2002) compares Scotland with other HBSC countries. The results showed that in relation to other European countries, Scotland ranked second top in soft drink

consumption for every age. At age 15, 53.9% of boys and 45.2% of girls reported consuming sugary soft drinks at least once a day. Fruit consumption within Scotland was reported as 27.1% on a daily basis. However, it was noted that this consumption declined by ages 11-15 reflecting the cross-national trend. This trend was highlighted in studies conducted by Ely *et al* (2000). While it acknowledged that a number of factors affect dietary intake, it was noted from the data that a reliance on soft drinks and sweets was common in the diet of Scottish school-aged children. The conclusion from the study was that these foods would inhibit the intake of nutritionally advantageous foods and may be linked with the growing rise in obesity in young people.

The initiatives introduced by the Government in Scotland seem to endorse that poor diet is now seen as a significant contributor to Scotland's health record. It is now recognised that improving children's diet can make a major impact on the health of children with beneficial outcomes for educational attainment as well as improved health in later years.

Another development that has affected educational policy and practice in the Scottish Education System is a new government initiative *A Curriculum for Excellence, w*hich is designed to streamline the curriculum and offer a structure for development and learning from 3-18 years. At present most Secondary schools in Scotland include Home Economics on the curriculum in the first two years of Secondary schooling. Pupils are taught Food and Nutrition as part of a wide reaching Technological mode. After second year the majority of schools offer this is an option at Standard Grade only. Health and well-being will form part of the new curriculum and will be taught in cross-curricular areas such as Home Economics, Science, Biology and Personal and Social Development.
In contrast food education forms part of the core curriculum in most schools in Sweden, Iceland and Finland with food preparation skills seen as an important life skill for every young person (Ferri, 2004).

Further concerns about children's diets has now moved from alarm over lack of food to concerns about the excess and nutritional composition of the food consumed (Gustafsson, 2003). New government guidelines, introduced into schools in Scotland (2007), stating that every child receive a minimum of two hours PE per week, is also part of *The Curriculum for Excellence* draft document for health and well-being. It is hoped that the effect of this approach is, that physical activity in children will increase and influence the overall energy expenditure of young people.

Nutrition and physical activity go hand in hand. Reilly *et al.,* (1999) in the findings from their report on *Tackling Childhood Obesity* emphasised that to promote activity and nutritional knowledge, adults must act to influence children's daily environments, as decision makers, gatekeepers, opinion leaders, service providers, and role models.

What we can conclude from this brief outline is that food choice and physical activity has a direct impact on children's health and well-being. Also particularly apparent, as the result of writing and reflecting on the overall context of the work, is that although there is a policy framework in place in the *Scottish Diet Action Plan*, children in Scotland are not translating this into practice.

The evidence from Scottish studies consistently demonstrates that children's eating habits are poor with young people taking a *grazing* approach to eating (Ely *et al.,* 2000). From the findings they have concluded that the availability of snack food from vending machines and the increase in the availability of convenience foods have radically changed eating patterns.

Despite heightened interest in preventing obesity and other, diet-related illnesses, Yancey *et al*., (2006) states that the evidence base for effectiveness of local school-based programmes and changes in policy to combat childhood these childhood diseases are poor. She goes on to say that even less research

has been devoted to improving nutrition and physical activity in preschool and childcare settings schools. Yancey is of the opinion that this in turn presents challenges for regulatory authorities to present programmes that are uniform and less fragmented.

It could be concluded from the literature that there is urgency for more in-depth robust research to be conducted into influences on children's eating habits and the Scottish diet. An investigation into policy practices and consistency of school-based programmes for parents on improving nutrition and physical activity would also be valuable.

2.4 Summary

This chapter has sought to outline issues related to educational policy and practice in relation to health and eating habits of young people in Scotland within which this study is set. What has become apparent is that this is the right time to be addressing a major issue of who or what influences children's food choice and the impact these choices have on health. The literature review, which follows in Chapter 3, examines current understandings of the key issues related to health and food choice pertaining to young people and therefore sets out in more detail the research and policy dimensions which underpin the research and development of this study.

3 Literature review

3.1 Introduction

The previous Chapter 2 outlined the context within which the study is set. This outline provided a general framework for a more focussed discussion of the relevant and policy literature on the health, eating habits and the affect on the development of children and young people. This review looks at the extensive body of research related to the eating habits of young people and their respective families. It provides a backdrop for more particular discussions in relation to how dietary habits affect health and the claims of educational benefits for young people. It is supported by a more focussed review of the literature concerned with influences, attitudes and perceptions to food choice in young people to investigate whether these play a strong part in food choice. Food education in schools and dietary interventions will also be reviewed.

3.2 Overview

During the past 10-15 years, there has been fairly substantial research literature in the UK concerning nutritional standards for young people. The literature search within this study did not discuss in detail nutritional requirements of young people, nor does it concern itself with specific clinical diets unless there were links to education. Given that this study has a health dimension, this theme will permeate the review in tandem with the discipline of psychology, which underpins attitudes and beliefs in food choice.

The Athens database served as the main source for research studies, journals and publications. The literature was identified systematically by performing keyword searches in various databases (ERIC & Web of Knowledge). Key words including *eating habits*, *school food*, *interventions*, *health surveys* and *food trends* were used to screen the search. It was decided to confine the search

to research studies conducted within a period of fifteen years unless they were considered to be particularly relevant to the study. Professional journals such as The British Medical Journal, The Lancet and Health Education Research publications provided ongoing research and original papers related to a range of health issues affecting public health in relation to parents and children's eating habits. The British Journal of Nutrition and the International Journal of Health Promotion and Education were useful tools in developing an understanding of the subject area in a global context.

The review also drew on and evaluated books and web-based resources through electronic journals including Medline, Sage publications and Oxford University Press. The search helped to identify and locate relevant documents related to influences on eating habits of children in Scotland.

Conference papers from Sheffield University Department of Childhood Studies, the Nutrition Society, Food, Mood and Learning Conferences run by The Scottish Government also gave a valuable insight into children's eating trends in relation to cognitive development. Scottish Government publications such as Hungry for Success (2003) and Nutritional Standards for School Meals in Scotland Bill (2008) also helped put the study into context.

As expected, research into the questions on nutritional habits yielded a great deal of literature on obesity, which is now at the forefront of dietary concern. However, at the beginning of the search it was noted that there was a lack of qualitative data for children and adolescents particularly since obesity is described as today's most neglected public health problem (World Health Organization, 2005). There is a need to be selective when deciding on a base point for the search. The field is heavily dominated by quantitative studies conducted mainly in the medical field and tends to concentrate on treating diet-related illnesses such as obesity in children and cardio-vascular problems whenever they manifest themselves. Few medical studies concentrate on diet, lifestyle and behavioural change as a way to help people to maintain good

health. Since food choice is a contributory factor in the disease, reference will be made to food intake in relation to the effect it has on health of young people. The chapter reviews UK and worldwide studies to identify the factors affecting food choice in relation to health and cognitive development. It also considers the role of food education in realising potential benefits or mitigating negative effects of changing behaviour. An important part of this review is the literature supporting the strong influence of attitudes and perceptions to food choice in young people and their parents. In order to address the terms of reference for this study, the findings of the review have been grouped together under the following headings:

- The health status and dietary habits of young people in Scotland and the relationship of this status to children in other countries.
- Factors influencing food choice in young people.
- Food choice and the food education in schools.
- Food choice and attainment.
- Dietary Interventions

These themes have emerged as being important to the research and provide a useful way of depicting the issues from the context of the study, particularly because each one links to the worlds of health and education.

3.3 The health status and dietary habits of young people in Scotland and other countries

There has been considerable contemporary interest in the health of the nation, with growing concern that obesity and other diet-related illnesses have become a global pandemic. This has resulted in bringing health to the forefront of public debate with health professionals acknowledging the relationship between diet and health. In Scotland, eating habits were highlighted as the second major cause (after smoking) of poor health contributing to a range of serious illnesses, which include coronary heart disease, certain cancers, strokes, osteoporosis and

diabetes (Sheldon, 2005). The Scottish Government recognised healthy eating as one of the key factors for improving Scotland's position as one of the unhealthiest nations in Europe (Scottish Executive, 2002).

An early review of literature on diet and food preferences show that most people's choice are determined more by social, economic, climatic, and geographical factors than by a concern for health (Dixey *et al.*, 1999). Douglas (1998) in her research into children's eating habits is of the opinion that young people in particular have little perception of the future and therefore see little relevance in disease prevention. Other researchers such as Hill (2002) believes that children need guidance with regard to eating as they do with their other activities to ensure that sound dietary habits continue into adolescence. The challenge facing the Scottish Government is to ensure that this guidance is in place and policy and practice reflects this.

In January 2003 a healthy living campaign was launched in Scotland. This campaign was aimed at reinforcing the *Scottish Diet Action Plan*, which set dietary targets for 2005. These targets included doubling the consumption of fruit and vegetables, reducing saturated fat, sugar and salt. The targets also recommended an increase in the consumption of oily fish and complex carbohydrates. The Scottish Office's strategy document *Improving Health in Scotland* (1999) provides a clear indication of the challenges facing health promotion in Scotland. This health promoting school concept focuses on three interconnected strands of health: physical, emotional and social health. It is hoped that an integrated approach involving schools and their partners can contribute to improving the health and well being of children and young people in Scotland.

Food and nutrition is known to be one of the key factors influencing health. A healthy balanced diet means that the amount and variety of foods is adequate to provide the body with all the nutrients required. Nutrition has a major environmental influence in physical and mental growth and development in

early life. Nutrition is important, as is enjoyment of food. Food and eating can be powerful expressions of cultural and social identity (Dixey *et al.,* 1999).

A consistent theme in the research literature was the prevalence of obesity in adults and children. The challenge for health professionals and policy makers is to ensure that the population is informed that by eating healthily many diseases could be avoided promoting illness-free longevity (Dixey *et al.,* 1999).

The Scottish Government is aware of this growing problem. According to Scottish figures during school year 2004-2005, 21.5% of children in Primary 1 (aged 4-5 years) were identified as being overweight, 9.0% obese and 4.4% severely obese. Older children had higher levels of obesity. Of those aged 11-12 years, 34.1% were overweight, 19.4% were obese and more than one in 10 (11.2%) were severely obese. A review of the implementation of *Hungry for Success* (HMIE, 2008) suggests that at this time obesity still remains a problem with nearly one in five boys and over ten girls aged two to 15 years identified as obese.

A survey of sugar intake among children in Scotland (Sheehy, *et al.,* 2008) was commissioned by the Food Standard's Agency. The focus of the study was the intake of sugars and sugar-containing foods by children aged 3-16 years and involved 2800 children drawn from 80 postcode sectors in Scotland. This quantitative study, using a Food Frequency Questionnaire and face to face interviews to collect data, concluded that the intake of sugar was considerably higher in all of the children tested compared to the recommended Scottish Dietary Target of 10% of the total energy. Results showed that the intake of sugar was particularly high in older children and those living in more deprived areas, which was mainly due to high consumption of non-diet soft drinks, confectionary, biscuits, cakes and pastries. It could also be concluded from the study, since obesity results from an imbalance between energy intake and output that reducing the intake of sugar could make a positive contribution to

prevention of overweight and obesity, as well as bringing the diet more in line with dietary recommendations.

In their studies researchers have commented on the problem of tackling childhood obesity. Cole (2006), writing in the British Medical Journal stated that confusion existed among local professionals over the best way to tackle child obesity and other diet-related illnesses. A joint study by the Audit Commission, the Healthcare Commission Office and the National Audit Office states that there has been little action *on the ground* to halt the rise in obesity in children less than eleven years of age. Cole is of the opinion that there is little evidence to suggest that the twenty different initiatives on obesity introduced to improve children's health and nutrition have been successful.

A report issued some years ago by James (1998) in his capacity as Spokesperson of the Food Standard Agency, expressed particular concern then that the approach to health was not far reaching enough and felt that food was a public health issue deserving more recognition than it had previously received. He criticised the government for omitting education and advice on nutrition stating:

You cannot generate a coherent strategy on health without including nutrition, and successive governments have a hopelessly naive approach to it (James, p. 171, 1998).

He concluded by stating that, the best way to tackle diet is to start young, with schools taking a more proactive role.

Research studies related to food choice and children's own weight concerns, particularly those of girls, have been investigated in a number of countries. Currie & Todd's (1998) survey of children's health behaviours in Scotland found that losing weight is a preoccupation with fifty per cent of girls, the majority of which were of normal weight. Parents, especially mothers, pass on

their own dietary anxieties to their daughters. Studies show that the relationship between parents and children and its effect on eating habits are clearly complex (Sidik & Ahmed, 2004). This raises two important issues: why the levels of overweight and obesity in young people are still on the increase; and why there is a lack of priority and urgency in implementing *Hungry for Success* in secondary schools (HMIE, 2008).

However, there are some who would dispute the correlation between overweight adults and overweight children. A recent debate in the British Medical Journal (2008) referred to a thousand families' cohort study, which found little consistency between childhood overweight and adult obesity (Besham & Luik, 2008). Others (Kippling, Jago & Lawler, 2008) state that the adverse effects of obesity on health are well established, serious and causal.

Further research in the form of a systematic review by Brown, Kelly & Summerbell (2006) on the dietary and physical determinants of overweight and obesity provided observational studies over a one-year period. Outcomes from the study of children aged above five years showed that interventions involving parents in a significant way may be particularly effective in improving a child's dietary intake. Although this thesis was not concerned with an in-depth study of obesity the research provided valuable information to add to the overall debate.

A large body of scientific evidence documents that over-nutrition and obesity are major global health problems. Some are of the opinion that an indispensable change of policy and attitude from both the Scottish Government and the Medical Profession would facilitate a more effective public health measures to prevent further escalation of these diet-related problems (Jeffery & Sherwood, 2008).

Food choice is recognised as one of the contributory factors associated with weight gain. The evidence from Scottish studies consistently demonstrates that

young people from lower social classes have poorer diets in terms of food consumed (Anderson *et al*., 1994; West, 2004).

Quantitative studies on food choice and eating habits are well documented and provide a necessary basis for investigating food choice in young people. One such study *The National and Nutrition Survey of 4-18 year olds* (2000) found that:

- Three quarters of Scottish children did not eat green vegetables during the 7-day recorded time (compared with approximately half of English children);

- One third of children in Scotland ate salad vegetables and one quarter ate citrus fruit (Gregory *et al*., 2000). Scottish children eat around two portions per day of fruit and vegetables compared to the recommended five portions (Bolton-Smith, 1991; Wrieden *et al.,* 2006; Scottish Office, 2001).

- Three quarters of young people in Scotland drank standard carbonated soft drinks and almost half drank low-calorie versions.

The resulting data from this study provides information related to whether or not Scottish Dietary Targets are being met.

The literature search did however reveal few qualitative studies related to food choice and dietary habits of young people in Scotland. The studies conducted in schools were limited in content and often lacked scope or were limited in data collection especially if the research was conducted in schools with adolescents. However, it is acknowledged that conducting research in schools with young people is difficult and time consuming (Robson, 2002).

In general terms, there are also few research studies related to data on the Scottish diet. A study produced by Blades (2004) examined data on the Scottish diet revealing that in the general population, Scottish men and women have the highest premature mortality rate from coronary heart disease in the world. In

relation to the foods eaten, Blades study confirmed that the diet of the Scots provides a higher proportion of fat, contains less fruit and vegetables, supplies less energy from foods and beverages and includes a greater proportion of meals eaten out of the home. It was also noted that the diet of the Scots incorporated considerably more fried foods both within and outside the home.

3.4 Food choice and food education in schools.

The research literature raises important questions in relation to whether or not there is adequate food education in schools to enable young people to make informed food choices about the food they buy and eat. Several studies have sought to investigate the role of the school environment in relation to young people's health related behaviours (Pavis e*t al*., 1998; Denscombe, 2001) but there has been little qualitative research in Scotland that has explored the context in which the eating habits and food choice of young adolescents are shaped.

Hackett *et al.,* (2003), in their study into the eating habits of children in Liverpool, stated that the first years of secondary schooling may be crucial for shaping eating habits, in particular influencing boy's attitudes to food because of peer pressure. Their survey concludes that food education is necessary to help young people understand the links between diet and health and early and repeated exposure to food high in energy fat and sugar can influence food habits and preferences. This information is important for this thesis since the age range of the pupils in this particular cohort study is 10-14 years.

The literature search revealed further studies concerned with this age group. A large proportion of research studies on dietary habits and children's health come from The World Health Organization. These longitudinal studies, offer definitions and interpretations on the dietary habits of young people worldwide, this international body is also responsible for predicting global health problems.

One study on nutrition in adolescence (WHO, 2005) defines adolescents as persons aged 10-19 years. This covers the age span of pupils from upper Primary to Secondary schooling and is particularly important in its contribution to this thesis. The World Health Organization has extensively researched children's health. It is well documented in their literature (WHO, 1993, 1997, 2005) that nutrition has a major environmental influence in physical and mental growth and development in every life course, especially early life. It is also recognised that diet prior to conception and during gestation is important for the growing foetus (Rennie, 1991; Doyle, 1998; Ramakrishnan *et al*., 1999). Controversially some studies argue that nutrition knowledge, with regard to pregnancy, is not high in the field of medicine and there is concern that pregnant women do not get the necessary guidance to make informed choices (Mulliner *et al*., 1995).

According to Greene (1986) adolescents are in the process of establishing responsibility for their own health-related behaviour, which includes diet and food choice. Cordonnier (1995) agreed with Greene's study and argued that adolescents tend to be little concerned about the future and the long-term consequences of their present behaviour (Dixey *et al*., 1999). Another study by the World Health Organization (2005) designed to form the basis of recommendations on the prevention of nutritional disorders in adolescents in developing countries, pointed to the weakness of this argument. The report stated that influencing nutrition-related behaviour of adolescents implies that they have some choice, and therefore, have access to the required food resources and education (WHO. 2005). It is further suggested that adolescents tend to have fewer resources than adults because of socio-economic circumstances and are generally more on their own than younger children.

The study identifies two distinct views: one that adolescence is a propitious period for the adoption and consolidation of sound dietary habits; the other was that adolescents are usually open to new ideas and show curiosity and interest. However, the literature also highlighted adolescence as a period of nutritional

vulnerability where lifestyle and eating behaviour, along with underlying psychosocial factors, are important threats to adequate nutrition. Many (Thomas *et al.,* 2007; Shepherd 1992) also concur this view, and suggest that with increasing age, adolescents' personal choices and preferences gain priority over eating habits acquired in the family.

Much research has focused on the need for children to have a balanced diet to grow and thrive and it has been assumed that youth is the healthiest period in the life-course (HEBS, 2001). However, statistics show that young people in Britain are not as healthy as previously thought. Health factors such as overweight and obesity in children can have long-term personal and societal consequences (Bullen, 2004). Adolescents are tomorrow's adult population; their health and well-being are crucial (WHO, 2005). Adolescence is a period of rapid growth and development and while it is acknowledged that nutrition influences growth and development throughout infancy and childhood, nutrient needs during adolescence are at their highest level (Lifshitz, Tarim & Smith, 1993).

3.5 Factors affecting food choice in young people

If it is not available, it will not be eaten
If it is available, it is likely to be eaten
If there is no alternative, it will be eaten
(Mela, 1999)

The selection of food in or out of school is usually down to choice. Murcott (1998) offered some useful definitions of the meaning of the phrase, *food choice* in his research on *The Nation's Diet*. He described it as:

- The action of choosing; preferential determinism between things proposed;
- The power, right or faculty of choosing;
- Scope or field for choice.

The Food Standards Agency (2004) realising the importance of food choice commissioned the British Nutrition Foundation to carry out a critical review of the psychosocial basis for food choice. The researchers concluded that there are major psychosocial factors influencing food choice and that these factors span various disciplines of social science with each approaching the research from its own perspective. For example, psychologists may focus on what influences food choice, while economists may be concerned with how a limited budget constrains food choice. Nutritionists are concerned about the impact on nutrient intake.

A number of research reviews on food choice and eating behaviour for example, Birch & Fisher, (1998); Birch, (1997) tend to focus on younger children and their parents. Birch and colleagues have analysed the early determinants of food preference and choice and state the most direct and immediate influence on children's food experiences gained in the early years is predominated by home, parents and family (Birch & Fisher, 1998). Some of the most detailed research contributions by Birch and colleagues are based on the power of parental child-feeding practices and the control parents can exert over what and how much children can eat.

Mela (1999) is among those who have researched the subject of human food choice. He states that availability is often the primary determinant in food choice a factor he feels is commonly overlooked. This factor is of particular relevance in schools where young people eat one of their main meals during the school day and policy makers increasingly view secondary schools as sites where healthier eating can be encouraged (The Scottish Executive, 2000; Learning & Teaching Scotland, 2004). Studies into eating habits of children also show that in some key ways, perhaps because of the wide range of food to choose from, diet deteriorates with age especially in the first year or so of Secondary school (Hackett, Gibbon & Lamb, 2003). Paradoxically it could be argued that it is counter-productive to have a wide choice of food available in

schools without the necessary food education to enable school children to make healthier choices (Ferri, 2004). The school environment provides multiple opportunities for the acquisition and reinforcement, from an early age, of good dietary habits and consequently good food choices. The accumulated evidence from nutrition education and health promoting research strongly suggests that in the short term changing the type of food available is more feasible than changing attitudes and beliefs associated with food choice (Sigman-Grant, 1997).

Dennison (1995) acknowledged that there was very little research examining the factors motivating adolescent food choice. He was of the opinion that without this knowledge, efforts to improve the nutritional quality of their diets had very little chance of succeeding. Since then there has been little qualitative research in the UK that has explored the context in which the eating habits and food practices of young teenagers are situated.

Wills, *et al.,* (2006) conducted research on the influence of the secondary school setting on food practices of young teenagers from disadvantaged backgrounds in Scotland. The study concluded that far from being a result of individualised behaviour, young teenagers' eating habits are heavily influenced by the school environment namely: availability of food, peer pressure and vending machines. Other studies recognise that the lunchtime school meal is an important contributor to the overall food intake for many school children, especially for low-income families (Ruxton *et al*., 1996). This particular study adds to the knowledge about young people's food and eating patterns within a school day. It gives an important insight into food patterns and issues in a small group of teenagers and although not attributable to groups outside this area it is a base point for further research.

Kelly *et al.*, (2006) in their study into children's food choice are of the opinion that eating and liking junk food is normal behaviour for children while liking healthy food is seen as an oddity because eating choice tends to include snack food (Brown *et al*., 2004). Other research studies offered other links suggesting

that the tendency to snack and the increase in the proportion of teenagers in the UK who are overweight (McCartney *et al*., 2003) may be in part, due to sedentary behaviour and a poor diet in particular the increased intake of high-energy, fatty foods (Maffeis, 2000; Decklebaum & Williams, 2001) in the form of snacks. Further research studies also suggest that the following eating patterns and intakes of young people put them at risk of unhealthy eating: snacking, usually on energy-dense but nutritionally poor foods; meal skipping; irregular eating patterns; and a wide use of fast food for meals and snacks (Chinn & Rona, 2001; Rudolf *et al*., 2004). Others (Hackett *et al., 2003)* acknowledge that snacks are important to children and offer the notion that this form of eating may be beneficial to those with a small appetite.

However, Howard and Reeves (2005) challenged this viewpoint on snacking. They tested the hypothesis that snack food makes a significant contribution to the diet of the adolescent and were essential to meet the intake of many macro and micronutrients. They argue that snack foods have an important impact on the diets of adolescents because of the significant contributions to total energy intakes and essential micronutrients. In contrast this study concluded that the most preferred snack foods were either high in fat and/or sugar. The interpretation of these results raised an important question: whether the provision of snack foods in schools contributes towards overall health and helps establish good dietary habits.

While it appears that certain aspects of the diets of children are a concern, some studies point to the significant associations between family members in relation to food choice (Longbottom *et al*., 2002). The same study made a comparison of food intake of Scottish children aged 5–8 and half years and that of their mothers. It concluded that children's intakes of snack foods were correlated with that of their mothers, emphasising the need for change at a family level if dietary changes were to be made. Brown *et al*., (2000) also suggests that, if parents hold negative views in relation to nutritionally balanced diets, it is likely that their children will inherit such traits. Results from a further study by Brown & Ogden (2004) showed significant correlations between parent and

child for reported snack intake, eating motivations and body dissatisfaction, indicating an important role for modelling. The authors concluded that a positive parental role model may be a method for improving a child's diet.

3.6 Food choice and educational attainment

In children, diet plays an essential role in growth, well-being and educational performance.

Schools (Nutrition and Health Promotion) (Scotland) Bill, Scottish Government (2006, p.4).

The educational attainment of young people has been at the forefront of educational debate. The desire to raise attainment and therefore improve the life of young people is an important consideration for government and educational authorities. A recent addition to the debate is the growing evidence that it may not be just young people's physical health that is at risk from a poor diet. There is evidence from research literature that for some children, behaviour and learning capacity are being compromised (Richardson & Puri, 2002). This section of the literature chapter examines the research evidence gathered on the subject of diet and attainment and also considers whether these claims are justifiable.

Some researchers state that it is becoming more and more obvious that health and attainment are linked (Richardson, 2000; Ross, 2005) supporting the theory that good nutrition contributes to improving the well being of children and their learning ability (Pollit, 1990). Some studies are finding a correlation between educational achievement and better health measured against years of schooling, level of attainment, achievement and absence of disease and illness (Askew, 2003). Further research by Gesch (2002) into diet and behaviour was conducted in a young offenders institute and was designed to examine the link between violent offences and food supplements. The evidence was based on a random controlled trial over 18 months, with half the participants receiving nutritional

supplements and half receiving placebos. It was noted that the group taking the supplement committed 40% fewer violent offences than the control group taking the placebo. The study also recorded a 25% overall reduction in offending. Gesch's study points to nutrients as being crucial for mood and social behaviour. However, the research does not indicate whether all human beings are predisposed towards bad behaviour from a nutritionally poor diet, or that some people are more at risk from other factors. Criticisms have also been made that the study does not isolate nutrition from other factors at play.

Another area of research, into links between diet and some of the behavioural and learning problems associated with dyslexia, dyspraxia and attention deficit disorder (ADHD) have emerged in recent years. Richardson *et al*., (2005) conducted a pilot study with forty-one children aged 8-12 years, with both specific learning difficulties, mainly dyslexia and attention deficit hyperactivity disorders (ADHD). The results from this controlled experiment after twelve weeks showed the children who had received the dietary supplement showed clear improvement compared with those on placebos according to parents ratings of their ADHD-related symptoms. Particular improvements were found for *cognitive problems* i.e. difficulties in attention, concentration and short-term memory. Richardson (2005) believes that without the right nutrients, the brain, as well as the body will not function properly. While stressing that *correlation is not causation,* she is of the opinion that there is sufficient evidence to suggest that a lack of certain fatty acids particularly omega 3 in the diet might contribute to some features of ADHD and that diet could be the key to improving overall health and cognitive function.

Research on the relationship between nutrition and cognitive development is scarce. Non-medical experts recognise that diet and health are linked. The Scottish Government endorsed this view in the quotation on page one. Information from the *Improving the health and nutrition of Scotland's children* consultation report stated that a child's diet plays an essential role in growth, well-being and educational performance. Reducing obesity and other diet-

related illnesses could pay dividends in terms of increased educational attainment and improved health in later life (Scottish Executive, 2006).

Others would question these findings as being the main factor in improving educational attainment. A study by Gilleskie & Harrison (1998) acknowledged that other factors such as wealth, income, parent's education and other social reasons are strong influencing factors. However, the research does claim that better health status enables us to achieve a higher level of educational achievement. The study concludes that poor physical and emotional health were barriers to successful learning and education.

The link between health and attainment has been explored in the review of literature conducted by Powney *et al.,* (SCRE, 2000). Overall, the research concluded that children's physical health and educational achievement are connected. However, it was acknowledged that there are problems with generalisability, of cultural differences between research settings, and of methodology. Findings from Scottish Council Research in Education's interpretation of the evidence, suggests that an important factor running through the literature is nutrition and its link with educational achievement (SCRE, 2000).

Other studies report that better nutrition is associated with the development of the brain and that even moderate under-nutrition can have lasting effects on the cognitive development of children (Beard *et al*., 1993; Pollitt, 1994).

Reviews by Symon *et al.,* (1997) & Troccoli (1993) found that hungry and undernourished children are irritable, apathetic and physically inactive. The aforementioned reviews also claim that children who are hungry or undernourished also have more difficulty fighting infection and are more likely to become ill, to the detriment of their education.

In a review of studies related to diet and cognitive development, Powney *et al.*, (2004) acknowledged that although there are many studies linking achievement and health, caution is urged, since the studies are often conducted by specialists resulting in a multitude of correlations using variables of a psychological or medical nature. Wainright (2000) also urged caution when identifying nutritional factors particularly the role of n-3 fatty acids and their impact on the development of human intelligence. She states that it is important to realise that performance on cognitive measures, learning and memory may be confounded by alterations in non-cognitive functions, emotionality and arousal, or by inadequate sensory and motor skills. She goes on to say that despite these complexities, the possible influence of nutritional factors such as dietary lipids on the functional properties of the nervous system has important implications. However debateable these results may be, more research is required on the link between cognition, brain development and food choice to understand fully the implications for both educational practice and future generations. All of this points to certain urgency for understanding what influences children's food choice both in and out of school.

It was noted from the literature search that there has been a vast array of policy developments in relation to children and food in the past few years particularly in relation to school meal provision. However Gustafsson (2003) notes the absence of the child's voice in relation to public policy-making around school meals, despite the fact that they are direct recipients of the service.

3.7 Food Education in schools

Schools are in a unique position to encourage and facilitate healthy eating. (The Scottish Diet Action Plan (1996, 6.23)

Many researchers believe food education is the most effective way to improve food choice and dietary habits (Douglas, 1998; Blades, 2004; Stitt, 1996). The strength of this argument lies in food education being seen as one of the most

effective health promotion strategies in providing the means by which families and individuals have to determine what they eat rather than relying on processed foods (Stitt *et al*., 1996). Tones *et al*., (1991) described the dual function of health promotion as a means of empowering individual choices and raising consciousness about social health issues.

An updated collaborative cross-national survey conducted by The World Health Organization (2005) involved over 162,000 young people aged 11, 13 and 15 years in 35 countries and regions. The results confirmed that the information directly from young people themselves shows how their behaviour and life circumstances affect their health. The report states that adolescents are an ideal targets for nutrition education. This age group is an important stage in adolescent life in that they are becoming more independent in making their own decisions and choices. Given money to fend for themselves during the day children have the freedom to choose whatever food they like at lunchtime and also to buy snacks during and after school (Douglas, 1998).

To help address dietary problems in schools the Scottish Executive has introduced *Hungry for Success* (2003). This document set out its vision to improve school meal provision in the belief that regulating the quality and nutritional content of school meals would improve the health of schoolchildren in Scotland. Schools are also encouraged to provide healthy snacks rather than sugary and fatty alternatives. An updated report by HM Inspectorate of Education (January 2008) into the implementation of *Hungry for Success: A Whole School Approach to School Meals in Scotland* stated that notable improvement had been made regarding the nutritional quality of school meals. However it acknowledged that progress in Secondary and some Primary schools has been slow. It was also noted in the report that the level of understanding and application of knowledge varied and recommended that pupils must have clear knowledge of food and nutrition to be able to make informed choices. When questioned about health, it was also noted that in some secondary schools, pupils were unable to identify health-promoting strategies.

The report concluded that overall, more work needed to be done to promote health, as this is one of the key factors in achieving dietary change.

A study by Anderson *et al*., (2005) concluded that it is possible to change the balance of what children eat by restricting choice for example the removal of sweets and unhealthy snacks can increase the uptake of fruit. They clearly state, however that this must go hand in hand with education.

Askew (2003) in her position paper argues that effective learning promotes health and vice-versa which has a positive effect on the economy of the country. Henderson, West & Raab (2005) took this notion further when they discussed the school effects on health behaviours. They were of the opinion that if schools can make a positive impact on pupils' health behaviour, at a stage when lifestyles are still being formed, this would make a contribution to the future well-being of the individual, the economy and society as a whole. It is recognised especially by government policy and related papers that eating habits and food practices play an important role in young peoples current and future health and well-being (Scottish Office, 1996; Department of Health, 1999).

Other research studies also show that adults prefer to eat foods they ate as children and longitudinal studies of food intake such as the Minnesota Heart Study (Kelder *et al.,* 1994) indicate that children who select healthy options at baseline continue to do so throughout the study (Steptoe *et al*., 1995).

School meals can encourage healthy options and should be part of the educational process, providing a valuable opportunity to practice what children learn in the curriculum. To encourage uptake school meals should provide high quality foods that are well presented and consistent with dietary guidelines. Food preparation as part of the curriculum, which is linked to food served in schools can encourage children to request or prepare healthy food at home with the family.

3.8 Food choices and the family influence

Since 2000 there have been some fundamental changes in eating habits in western culture. Over the last 10 years there has been an over-reliance on expensive, pre-cooked convenience food, which has taken the place of home cooked food using fresh ingredients (Ferri, 2006).

De Bourdeaudhuij's (1997) study into perceived family members' influence on introducing healthy food into the family found that targeting families rather than individuals in nutrition intervention programmes was more successful in changing eating habits.

For a long time the family diet is most often seen as the mother's responsibility with women seen as *gatekeepers* controlling food choice. However, the powerful influence of other family members is highlighted in this study. Some authors (Pill & Parry, 1989) found that the male head in the household could have a negative influence on dietary change described as *obstructive conflict.* It was therefore important to acknowledge the influence of men/fathers in nutrition education and dietary change. Most researchers emphasised that, next to the preferences of men/fathers, the wishes of children play a major role in shaping the patterns of family eating (Pill & Parry, 1989).

A study by Kelly, Turner & McKenna (2006), investigated this relationship further by exploring the perceived influence of peers and family on a child's perceptions of healthy food products. The findings from this quantitative study into the influence a child may have on family decision-making, states that the children, used in this Scottish study, aged 5-12 years may be the influencers and end users of products bought. However, they go on to state that they are rarely the buyer or decider as they rely solely on their parents for income (Sheth *et al*., 1999). The study concluded that parents are of the opinion that they have the most powerful influence on their child regarding consumption patterns of healthy food products. Findings also indicate that parents believe

their children influence them and that they are more likely to consult their children over food purchases when shopping. The study also acknowledges that other factors such as peer pressure and the media play a major part in shaping a child's attitude to food consumption which in turn has a powerful influence on the eating patterns in the household. The study used quantitative analysis in the form of questionnaires and was conducted in one primary school. The authors (Kelly *et al.,* 2006) acknowledged the limitations of the study and the issues regarding the approach. One weakness highlighted by the authors was that they were unable to gain the actual views of the children and therefore the findings carry the bias of parents perhaps overemphasising the influence they have over their children.

Parents play a key role in influencing a child's eating patterns, although Birch *et al.,* (1998) suggest, that this is not straightforward. For younger children, parents are the primary determinants of food choice, while peer group pressures become increasingly important as the child gets older (Young, 1993). However, Hill (2002) felt that parents should not be wholly responsible for their child's eating, nor blamed when it is less than perfect. Instead Hill suggests that parents need sustained reassurance, guidance and suggestions that can be individualised according to their needs and their child's situation.

A research study by Alderson & Ogden (1999), investigated the influence of mother's food choice for their children. A questionnaire from the study completed by mothers of children between 5-11 years assessed whether the mother's dieting behaviour affected the type of food served in the home. The data revealed that mothers tended to feed their children in a less healthy way than they feed themselves because of dieting trends, specifically, the children's diet included more sweet products, more unhealthy breads and diary products. However, there were contradictory views in the findings. While participants in the above study (Alderson & Ogden, 1999) stated that they are more motivated by practicalities such as availability, cost and calories when choosing food for themselves, health and nutritional value was stated as being more important

when choosing food for their family. However this was in direct contrast to the type of food chosen for their children. The results of the study reflected a genuine gap between motivations and behaviour, and indicated a role for more food knowledge. The authors concluded from the study that it is possible mothers may be motivated by health for their children and believe that they are feeding their children healthily, but do not know what constitutes a healthy diet. This supports the notion that improved parental knowledge would result in mother's making food choices which are in line with her health-driven motivations. The study adds to the debate on the role of parents surrounding food choice and would have been enhanced by follow up interviews to expand in-depth the main themes. However, it raises the important question of where parents acquire the knowledge and food education to enable them to make informed food choices.

There is substantial evidence to suggest that parental influence is important in both food choice and dietary habits. A review of family and social determinants of children's eating habits (Patrick & Nicklas, 2005) highlighted that eating habits and food choice are strongly influenced by characteristics of both the physical and social environment. The research states that children are more likely to eat food that is readily available and easily accessible and consume larger portions when provided. Mealtime patterns and the source of food e.g. schools and restaurants were also important in shaping food choices either positively or negatively. The study concluded that parents play a direct role in children's eating patterns through their behaviour, attitudes and feeding styles. Patrick & Nicklas (2005) concluded that children's eating patterns are complex and they suggested that there is a need to consider a variety of social and physical factors if interventions aimed at improving eating habits is to be effective. In line with this research others claim that children choose to eat foods that they have been given the most often, and prefer what is available and acceptable in the parental household (Birch & Marlin, 1982).

A further study by Beauchamp & Moran (1982) reported that 6-month-old babies who were accustomed to drinking sweetened water chose to take more compared to those babies who were not, suggesting that preferences for sweet tastes may be modified by familiarity. Therefore parental attitudes and food choices can shape eating habits either indirectly through foods purchased for and served in the household, thereby also influencing the children's exposure and hence, perhaps their eating habits (Wardle, 1993). The family or household unit and contact with peers, provide the potential for modelling, training and reinforcement of common food choice and establishing eating behaviours, sensory likes and dislikes (Birch, 1990, 1998; Johnson & Birch, 1994).This position was emphasized in a study designed to establish whether there was a relationship between the food intakes of Scottish 5 ½-8 ½ year–olds and those of their mothers (Longbottom, Wrieden & Pine, 2002). The research concluded that children's intakes of snack foods correlated with that of their mothers thus emphasizing the need for change at family level if current guidelines on diet are to be implemented. Therefore if parents in the study purchase snack food high in sugar, fat and salt for the family this could have an impact on influencing food choice.

One possible way of intervening in children's diets would involve targeting parents. However, little is known about the most straightforward and economic way to influence eating habits through family members (De Bourdeaudhuij, 1997). Some question the decrease in family and parental influence as children reach adolescence (Baranowski *et al.,* 1999). Acknowledging this could be the case; De Bourdeaudhuij concluded in her study that a school-based nutritional intervention programme, without a home component, runs a risk of being unsuccessful.

3.9 Children as family participants

Some studies have focused on the role of the child within the family in relation to eating habits. James (2008), in her research into changing families and

changing food patterns, interviewed children and their parents on what constitutes a proper family meal. The results showed that participants eating together and sharing food was seen as an important part of family life and concluded that, within this structure, children's likes and dislikes can determine family food patterns. The findings from James's study also stated that parents in the study cohort also regard the pattern of children eating away from home as a rejection of the family. Another researcher Zeiher (2001) argues that children's status within the family is changing and this status can be categorised in three ways:

1. Children approaching independence and still serviced by the family
2. Children as dependents, but also engaged in independent activities
3. Children as independent and equal family members

James (2008) further states that food patterns and food choice within a family will be determined by how much influence the child has on the family unit. She described family life as fluid and this is reflected in meal patterns within the family. There is evidence to suggest that the family is becoming a more democratic unit and that the ability of children to influence adult decision-making should not be underestimated (Blinkhorn, Roberts & Duxbury, 2003). Shepherd (1992) was of the opinion that, if health/nutrition education is to succeed in the long term, the role of such factors in food choice needs to be more fully investigated and understood.

3.10 Dietary interventions

As stated in Chapter 2, researches on the Scottish diet (Blades, 2004) shows that Scots eat more meals purchased outside the home and have the highest consumption of soft drinks, cakes and ice cream (DEFRA, 2004). Studies also show that the Scots fry many of their home cooked meals which contributes to the high fat content of the Scottish diet (Blades, 2004).

The literature available on intervention programmes involving cooking skills within an educational background was very limited. Reference to the impact on food choice of an intervention programme, designed to encourage cooking skills and healthy eating in parents and children, was also very limited.

Research into these questions yielded less information than was expected for a subject that provided important life skills. Most of the research that emerged was medically based and covered dietary interventions concerned with the problem of obesity and hypertension. Surprisingly few were conducted in schools. Moreover, research, which included parents and children as part of a healthy eating intervention programme, yielded very little information.

An exploratory study in the form of a food skills intervention study in areas of social deprivation in Scotland (Cook Well) was aimed at altering confidence, food preparation methods and dietary choices. This standardised programme involving one hundred and thirteen adults was implemented in eight urban community–based settings. Results pre- and post- intervention showed that a food skills intervention is likely to have a small but positive effect on food choice and confidence in food preparation. The authors however recommended that a range of flexible approaches is desirable when working with different groups. (Wrieden, *et al*., 2002).

A qualitative study using a phenomenological approach was also conducted in Scotland to assess the feasibility of nutritional education intervention sessions for pregnant teenagers aged 16-18 years. Findings showed that those who attended found the sessions to be social, educational, and practical and concluded that nutritional education remains an important public health issue (Symon & Wrieden, 2002).

The published literature also revealed a limited amount of research on cooking skills and health. One study by Lang *et al.,* (2001) suggested that people's class

and education relate to their knowledge of food preparation but emphasised that cooking courses should not solely be aimed at low income-groups.

Some researchers (Lang & Caraher, 2001) debate whether cooking skills are important for health and well-being. In a high–tech world where there are ample opportunities to be fed by others, they argue that some regard cooking skills as unimportant. However, there are many arguments which sustain the importance of cooking skills in relation to healthy eating for those on low incomes to achieve a healthy diet (Department of Health, 1998). Lang and Caraher (2001) state that cooking skills give consumers control over what they eat. Without basic skills it leaves little choice but to accept ready prepared meals with all the complications of labelling information and interpretation that ensues. Lang also argued that without these skills choice and control are diminished and a dependency culture emerges.

According to Spence & van Teijlinger (2005) food projects or dietary interventions may be described as health promotion interventions designed to offer experiences of a wider range of healthier, more balanced meals. They are also of the opinion that this can encourage confidence in cooking (Spence & van Teijlinger, 2005).

In recent years academics and specialists from all over the world have become concerned about the decline of cooking skills (Baderoon, 2002; Bonzo, Kitson & Wardrop, 2000; Rodrigues & de Almeida, 1996). These cooking skills are a major part of the intervention programme within this study.

Many argue that the population has become de-skilled and that cooking skills have been devalued by the availability of ready made convenience foods. In consequence, a greater proportion of ready-made meals are being eaten inside and outside the home (Mintz, 1985; Ritzer, 1996). These convenience meals often incorporate considerably more fried foods leading to a higher consumption of fat in the diet that can have a negative effect on health. Research by Short (2003) highlighted that technological developments have

influenced what is prepared and eaten in the home and have to a certain extent reduced the time and effort needed to prepare family meals. Pre-prepared and ready-made food can give a greater choice over the amount of food preparation involved (Short, 2003). Others argue that knowledge of how to prepare and cook food generates health-relevant skills (Lang & Caraher, 2001). Kemm (1991) described this as *know how* as opposed to *know what* knowledge. He believes that the possession of cooking skills can be empowering and can offer wider choice and control over what is eaten. Criticism was levelled at the Department of Health's Nutrition Task Force on the promotion of foods such as oily fish, pasta and vegetables without adequately addressing how to cook them. Assuming these skills were present can add to a sense of social exclusion: not being able to cook could be seen as a barrier to choice in the diet (Lang & Caraher, 2001).

Blades (2004) in her study into the Scottish diet noted considerable differences in the diet of Scots compared to that of those in the rest of Great Britain. These differences also include a high consumption of fried foods, less fruit and vegetables and a higher consumption of takeaway and convenience foods.

The lack of empirical data hinders the development of a coherent theory on the link between cooking skills and health, however many researchers are of the opinion that practical food preparation skills could play a significant role in helping to improve health (Lang & Caraher, 2001; Stitt, 1996). There is some evidence that shows that cooking classes or intervention programmes that are multifaceted in their approach, particularly within a health-promoting setting, may influence behaviour in the short term (Bostock, 1993; Demas, 1995; Kennedy & Ling, 1997; Caraher *et al*., 1999).

The literature search revealed a number of interventions both inside and outside school designed to improve the diet of children in Scotland. Some examples of these are 'The Scottish Nutrient Standards for School Lunches', teaching healthy eating as part of the school curriculum in home economics, Health

Promoting Schools concept. A dietary intervention provides an additional opportunity to build on these initiatives by providing practical cooking skills and food education for parents and children within an educational setting.

Bullen (2004) identified two comprehensive reviews of healthy eating interventions in schools that highlighted factors that reduced and increased efficacy (Roe, Hunt, Bradshaw & Rayner, 1997; Tedstone, Aviles, Shetty, & Daniels, 1998). Interventions that were too short and emphasised knowledge did not lead to behavioural change. Bullen's reference to nutrition education in schools as a way of changing children's food and health concepts emphasised the need to involve children in the design of the interventions. Her criticism of the apparent failure of current practice to change children's dietary habits, as a means of health promotion and healthy eating, poses the question of whether there is a lack of understanding of this important area. She suggests that more research into improving methods of teaching nutrition education must be a priority. The challenge for nutrition education lies in devising interventions, either those that stand alone or those taught as part of the curriculum, which will work with children's individuality and overcome resistance to conceptual change (Bullen, 2004).

Askew (2003) in her paper *Learning Promotes Health* discusses the concept of learners constructing meaning and understanding from reflecting on their experiences and dialogue with others. She argues that a sense of security, belonging to a group and sharing experiences are vital to our ability to learn effectively. She further states that the promotion of healthy eating often focuses on behaviour change as the goal, rather than the process of learning about self and others which might motivate change.

Many ideas for understanding motivation to change health behaviours have emerged in the last decade. Specifically, the stages of change model (Prochaska & Di Clemente, 1986) can provide a conceptual framework for understanding the process of individual behaviour change. This model helped to establish the

importance of tailoring intervention strategies to the needs of the individuals taking part. Reviews of successful dietary interventions identify the school environment as an important element indispensable for success. Perez-Rodrigo & Aranceta (2001), state that schools provide a valuable opportunity to influence health through education. It is seen as the most effective way to reach a large segment of the population, including young people, families, school staff and the wider community This study goes on to say that school-based nutrition programmes should include the development of skills and behaviour related to food preparation; social and cultural aspects of food and eating; enhanced self-esteem and positive body image, which are all conducive to healthier food choices.

Scotland has a worse diet-related ill-health pattern than England. As long as this is the case, the argument still persists that the Scottish Government cannot expect people to take control of their health if they do not know how to cook, shop and prepare food at home (Ferri, 2006; Robinson *et al*., 2000) There is a consensus that dietary change interventions are a necessary component of health promotion to prevent diet-related illness such as cardiovascular disease and cancer (Heimendinger *et al.,* 1990; WHO, 1997). Many of these interventions take place in Secondary schools as part of a nutrition education programme and have the scope to reach a wide percentage of the population. However, research shows that success is limited. Maintaining change is difficult over the long term with children and adolescents because of curricular constraints in schools.

In their review of healthy eating interventions, Roe *et al.,* (1997) noted that the provision of information alone does not change behaviour since interventions should be interpersonal and focus on behavioural change. An intervention, which includes cooking skills, can include all of these elements (Lang & Caraher, 2001).

A dietary intervention in a school setting is a way of providing parents with the skills and information to enable them to relate to what children are being taught in schools and encourage healthy food choices for the family. An intervention with a basic structure, which could then be planned and tailored to the needs of individual groups, could prove a valuable asset as part of a health promoting schools concept.

3.11 Summary

The review set out to provide information on the following issues:

First:
What does research tell us about the dietary habits of young people?

There was strong evidence to suggest that dietary habits in young people are giving cause for concern. Overweight, and obesity and the development of other diet-related illnesses in children and the concomitant personal and societal consequences, is an urgent and topical problem. There is promising evidence from the literature review that initiatives are in place to help tackle this important issue. The effectiveness of these initiatives needs careful monitoring and evaluation.

The second issue:
What are the perceived influences of food choice in young people?

There is less evidence available pertaining to adolescents because of the often inter-relating factors influencing food choice. What is clear from the few studies available is that the influence of the school setting on food choices is stronger than first anticipated. The studies by Longbottom *et al.,* (2002) & Wills, *et al.,* (2006) conducted within the school context need further investigation. More research from a young person's perspective will give a deeper understanding of the issues affecting food choice. This has implications for curricular and educational policy in schools.

Literature appears to be divided over whether food choice can be changed. Concern has been expressed that, even when people have the necessary knowledge to make dietary changes, there has to be the will to actually change behaviour (Food Standards Agency, 2005). Studies show that this is proving to be the most challenging to health professionals. The reason could be that there are many variables influencing the choices individuals make about the type of food they consume, the messages they receive and their susceptibility to change. The FSA report states that a primary source of information for consumers and health professionals alike is the media; it concludes that too often the information conveyed by the media is sensationalised, biased or confused. James (1998) believes that nutritional information should start with schools taking a more proactive role in teaching diet and nutrition as a way of narrowing the social divisions in Britain by providing food education.

Authors Naidoo & Wills (2000) were of the opinion that the encouragement of good food choices and the promotion of healthy eating was a primary intervention against the onset of diet-related disease. They further state that preventing the progression of the disease after detection is often the secondary approach linked to medical intervention. In line with The UK Health Select Committee's recommendation, many studies conclude that food education in schools could bridge the gap between knowledge and practice and offer a primary approach to both health promotion and changing food habits (Bullen, 2004; Crawford, 2006; James, 1998; Shepherd, 1992; Stitt, 1996).

The literature search confirms that policies are in place in schools using health initiatives to improve the eating habits of children. However, Hill (2002) suggests that unless the good practice is taken into the home, with parents working in partnership with schools, these initiatives stand little chance of succeeding. He goes on to say that parents play a key role throughout, although their influence is at times conscious or unconscious, certain or uncertain, helpful or a hindrance.

The third issue covered in this review was:

Is there evidence to suggest that diet and attainment are linked?

The research literature on the possible links between nutrition and attainment is fairly limited. There was research which indicates that better nutrition can positively influence neurological development of the brain and cognitive processes. However there is considerable debate over the claims of such literature. The studies of Gesch (2002) into the relationship between diet and anti-social behaviour is worthy of attention. Research by Richardson & Puri (2000); Ross (2005) into diet and cognitive behaviour is based on rigorous research methods and deserves deeper investigation. They are of the opinion that dietary intervention could be seen as a primary solution to dietary problems. New evidence emerging shows that further investigation of research studies on the relationship between diet and cognitive development needs to be given more prominence.

Hart (1998) defended the importance of searching for information as part of a literature review preceding the research. This literature search included databases, books journals, articles, and studies and proved necessary for understanding the specific topic and more importantly deciding on the particular focus of the study. The use of secondary data in the form of reports, articles and interviews with experts in areas related to the study was essential in understanding the wider issues particularly in relation to complex areas surrounding food choice. There are several issues which have emerged from this review and also helped identify a gap in the knowledge base and ultimately formulating the research questions in the study.

In conclusion the literature findings indicate that research into children's food choice is an urgent and topical subject and if initiatives to improve the health of young people are to be truly successful, the gap between knowledge and practice must be bridged. There is a need to get a clearer picture, through

research, of what children and young people actually eat over the course of the day (HMIE, 2008). Finding ways of extending parental involvement in supporting healthy eating is essential (HMIE, 2008). These issues indicate the importance of food education in schools at every level of the life course. It also acknowledges that while work in schools can make a significant contribution to improving the diets of children and young people, eating patterns out with school need addressed. The involvement of primary and secondary parents and their children would provide a valuable insight into understanding 'food choices'. It seems that there is a lack of research in this important area in a Scottish context. Thus, this was emerging as an issue to explore within the primary and secondary school context. Providing support and advice to parents about healthy food choices is not only a way of ensuring the message is not confined to school but is also taken into the home. The role and influence of the family, especially mothers, in relation to eating habits is an important issue. Research indicates that children may not only model their parents' food intake, but also their attitudes to food (Contento *et al.,* 1981). The practical dietary intervention was chosen as a way of drawing on social capital by providing a social network of support from schools and the community to promote health promotion messages. Parents, under a misguided perception that children need all the energy they can get because they are growing, will often give children what they want to eat (Douglas, 1998). Murcott (1998) noted that the responsibility for passing on cooking skills still belongs in the home and in this time of cultural change, there are grounds for supporting basic cooking skills within the family. Criticisms of the failure to adequately address the whole-school approach to health promotion involving parents and the wider community challenges and undermines the social inclusion agenda in which the programme is grounded. The intervention programme offers an awareness-raising initiative incorporating basic food skills and food knowledge linked to education. Askew (2003) argues that effective learning takes place in dialogue with other people and suggests that collaboration and learning with other people enhances learning. It is on that premise that the intervention programme was constructed.

As already indicated, what has not yet been done is enough qualitative research involving young people themselves. This has resulted in speculation and adult perceptions rather than from a child's point of view. Whether it is health, lifestyle or education, research offers evidence, enabling strategies to develop and help improve policy and practice. This type of study, described by Robson (2002) as *real world research* on, and with real people is researcher-initiated and is designed to seeking explanations and answers to the factors that affect food choice in a small cohort of children and parents.

The last point provides a useful link with the fieldwork outlined and discussed in later chapters and with the second, third and fourth research questions, which respectively, are concerned with investigating in more depth dietary habits and influences on food choice in a small group of parents and children and also the development and use of a dietary intervention.

The purpose of the study was to provide a deeper insight into factors influencing food choice in a specific group of parents and children by providing opportunities to allow them to voice opinions on aspects affecting their own food choice. The use of the intervention was seen as a way of providing a model which, potentially, could be used by schools to enable parents and children to work together to improve cooking skills and food choice.

Chapter 4, which follows, outlines the research methodology in the case study. The approach adopted in the development work, which forms the basis of the study is qualitative in nature and includes action research in the intervention programme.

4 Methodology

Research can be seen as a quest and the research process as a pathway.
Edwards & Talbot (1999 p. 1)

4.1 Introduction

The review of literature in the previous chapter highlighted the importance of children's food choice in relation to health and cognition. The development work outlined in later chapters has been driven by the need to involve young people directly in a study about their lives. Most of the research studies involving young people were limited to perceptions from an adult perspective rather than from a child's point of view. This chapter outlines the research approach adopted in respect of the developmental work. This work, which was undertaken in parallel to reviewing the literature, was broadly qualitative in nature. The approach adopted for the intervention was *action research* and this chapter discusses the approach and describes in detail the methodological process.

The research and development processes outlined and discussed at length, in this and the following chapter have grown out of the author's academic and professional work in three particular areas: teaching both primary and secondary pupils in food-related topics and the development of curriculum materials for schools in relation to *Hungry for Success*; the on-going link with a Swedish school as a follow up to two General Teaching Council scholarships granted in 2002 and 2003.

The action research approach used in the intervention programme and outlined more fully below, involved activities based on a detailed review of literature and information from parents to address the needs of parents and children in the

study, all of which were intertwined. The work therefore has elements of both academic enquiry and personal professional development.

To achieve the aims of the research and answer the research questions in the case study, it is necessary to define the chosen approach adopted with the design paradigm.

A variety of possibilities were considered to justify the approach to research. Consideration had to be given to the aims, research questions and overall direction of the work. This study sought to establish which factors affect parents and children's food choice. Therefore a qualitative style, which generated the data from children and their parents in order to help understand this complex topic, was considered suitable. It was therefore appropriate to select a qualitative methodology for the main part of the study. The value derived from this approach would allow a deeper understanding of food choices so that educators can use the information from young people and parents to encourage healthy eating habits both in and outside school.

This literature review highlighted a variety of studies using a different methodological approach. Relatively few used a qualitative approach with parents, children and young people. No Scottish studies were identified involving parents and children working together. In an informal interview with Professor John Reilly of Glasgow University, a leading specialist in the treatment of childhood obesity, he provided important background knowledge for this study by highlighting his recent health report on obesity for the Scottish Executive. The report, which is mentioned in the health section of the study, acknowledged that when questioned about support for their child, parents stated that what they required were practical skills in food preparation to assist with their children's diet. This interview also helped to establish that there was another gap in the knowledge base concerning food education. This realisation determined the intervention programme in the study and the use of action research as the preferred approach to answer research question four. The broad

definition of action research offered by McMillan & Schumacher (2006, p.414), which is, the process of using research principles to provide information that educational professionals use to improve aspects of day-to-day practice, contains a number of important features which are relevant to this study and are discussed in detail later in this chapter.

When embarking on a research project the reasons for choosing a particular approach and the specific procedures selected to gather data in the study must be sound so that the findings claims and conclusions are credible (Sikes, 2004). The advice of Robson (2002) was useful when considering the approach for this study. He refers to value judgements as an important consideration when choosing a research project and the kind of research questions chosen. He further states that a topic is chosen because it is viewed as worthwhile. Awareness that values and value judgements would have to be carefully monitored throughout this qualitative study was at the forefront of the approach. Hammersley (1995, ch.6) highlights ways in which values are implicated in research, some of which are relevant to this study:

- The research is committed to producing in-depth knowledge on eating habits and shopping trends of a group of parents and children. This knowledge could be used for other purposes such as curriculum development and/or educational policy.
- Research has effects on people's lives through being involved in research and respondents in the study could potentially be affected by the consequences and the findings.

Being aware of this potential in real world research and the realisation that research cannot be value free or politically neutral was at the centre of the approach. The study and the research questions were carefully chosen to avoid making value judgements whenever possible.

Another important point when choosing a methodological approach is the position of the researcher in relation to the context of the study. When

discussing researcher *positionality*, Sikes (2004) states that usually one of the most significant factors influencing choice is the stance of the researcher and his or her understanding and beliefs. An awareness of how this potential for bias might influence the research regarding thinking and practice was taken into consideration by the researcher at the research planning stage. Richard's (2005) view when discussing qualitative researchers acknowledges that one of the special hazards is that they are likely to have strong values and commitment to the topic. There were potential problems in this study design where the characteristics of the researcher as a home economics teacher in the study school could affect attitudes and opinions. Misperceptions on the part of the interviewer during focus group discussion and misunderstandings on the part of the respondents of what is being asked were also a possibility. The depth of questioning needed in the focus groups and intervention to produce a worthwhile study meant that the researcher had to be aware of this potential. Richard's (2005) did however have the opinion that good research design will always take into account what's known already, and will build into the design the ways this knowledge can and will be used and tested. Acknowledging this potential for bias at the outset of this study enabled the researcher to approach the research data with an open mind and a clear record of the participants' ideas and perceptions.

A thorough literature search, confirmed the author's belief that children and young people must have the appropriate food education to enable them to make informed healthy choices to ensure future health. The belief that children's food choices could affect not only health but also attainment is another contributory factor. In keeping with Sikes' (2004) particular viewpoint, these opinions did, to a certain extent, influence the choice of research questions and use of methodology in the study in a very positive way. The research is seen as a valuable and worthwhile contribution to the knowledge already available on the subject, since it provides valuable insight into influencing factors on food choice from a pupil and parent perspective.

Cohen, *et al.,* (2004), state that the purposes of the research determine the methodology and the design of the research, and identify a set of issues that researchers need to address regardless of research specificities. These are arranged into four main areas:

- Orienting
- Research design and methodology.
- Data analysis and decisions.
- Presentation and reporting of the results.

When making decisions about the framework for planning research, these areas proved to be useful when considering the practicalities of the research. Cohen, *et al.,* (2004) briefly describe research as the systematic process of collecting and logically analysing data for a particular purpose. Research methods are the ways in which one collects and analyses data to answer a specific research question. To understand why a qualitative approach to data collection was chosen for the study it might be useful to look at some approaches used in research.

Much debate exists about the two main approaches to social research. Robson (2002) has concerns about how the data is collected and whether we can or should, be rigorous when carrying out real world research. He further questions whether a rigorous approach is feasible or desirable for the methods of the natural sciences to be used in applied research involving real people. He concludes that research can encompass the *positivist* or scientific approach and their quantitative practices to establish the existence of a constant relationship between events. However, although this study was viewed as mainly qualitative, a quantitative element as part of the design was also considered in this study to present information from the parent questionnaire on shopping trends and eating habits. This approach was rejected as unsuitable because it did not fit well with the aims and questions in the study, which were to investigate the situation in depth.

When giving advice about choosing a research design strategy, Robson (2002) highlights different views on the two paradigms. He describes the actual practice of designing and carrying out research as complex and difficult to define. From a philosophical position many scientists embrace the term *positivism* as the *standard view* of science which separates facts from values with hypotheses tested against these facts.

Auguste Comte (Beck, 1979) was the first thinker to use the term *positivism* which held the notion that all genuine knowledge is based on sense experience and can only be advanced by means of observation and experiment (Cohen, Manion & Morrison, 2004). This approach could be viewed as suitable for dealing with the natural world when experimental conditions can be controlled. However, when people are the focus of the study, particularly in a real world context, Robson (2002) questioned this approach for research in social science because it restricts how data is collected and in his opinion cannot capture the real meaning of social behaviour (Sarantakos, 1998). In reality this means that a quantitative approach is based on collecting numerical data to explain a particular problem and in the *paradigm wars,* explained by Mujis (2004), many view this method as being more rigorous. Criticism levelled at this approach contends that it regards human behaviour as passive and in a social science context, findings are often said to be so banal that they are of little consequence to those for whom they are intended (Cohen *et al.,* 2004).

Within social science there are a number of influential *post-positivist* approaches which could be adopted. *Positivists* maintain that one reality exists and that it is the researcher's job to discover what it is. Post-positivists, on the other hand, also believe that reality does exist but consider that it can be known only imperfectly and probabilistically because of the researcher's limitations (Robson, 2002). Researchers use different terms to describe the alternative qualitative research approach. Robson (2002) describes the label *constructivist* as helpful in describing the approach that reality is socially constructed. He

goes on to describe qualitative research as a term encompassing a wide range of methods, such as interviews, case studies, ethnographic research and discourse analysis, to name but a few examples.

In discussing the merits of qualitative versus quantitative techniques, Silverman (2000) offers a wider argument suggesting that quantitative techniques and methods are not the only means by which researchers can investigate these phenomena. His view is that in certain circumstances such measures are inappropriate because they fail to appreciate the richness and diversity of thought, opinion and knowledge which only a qualitative study can produce. Although a quantitative approach for part of the study was considered, it was felt that this would not define the thesis and it would restrict the collection of data in this particular study and would not answer research question four.

To address the research questions a qualitative approach within a case study was still considered suitable as it could provide context-bound summaries for understand education and for future research. The present research is based on this conviction.

4.2 The approach

The methodological approach is often described as the ways in which the data is collected and analysed. The planning of the research and the methodology used must be constructed in the study to yield data on the particular research problem in this case provide in depth data on the influences of food choice.

Having already determined that the study has the characteristics of a qualitative approach, a decision about the structure of the research approach was necessary.

There are other approaches to this research which might have been adopted; these were identified as an ethnographic study and a case study. These

qualitative approaches differ in various ways. There were elements of ethnography where the focus is on learned patterns of action, beliefs, and ways of life. This research style also has the foci of perceptions and views of participants and is context specific. However, the work undertaken in this study was not solely about obtaining views it was also about involving participants in a practical situation, to improve food knowledge. The research is based on the premise that more information is needed about the eating habits of children and factors affecting food choice. This approach was considered and rejected for several reasons. Firstly, this work was not particularly suited to an ethnographic study, since the real world nature of the study would not have afforded the prolonged fieldwork involved in this type of study. Secondly, a lack of time meant there were insufficient opportunities to spend time with respondents because the researcher is neither a pupil nor a parent from the cohort under study. Thirdly, disruption to the school curriculum was a major pragmatic issue in all four schools. Finally although there were elements of narrative in the parent and pupil quotations the extensive description and documentary style involved would seem to suggest a level of investigation that would take this research beyond the proposed structure. Initial consideration was given to this method however, as attested above, the essence of this type of study is prolonged social interaction which is not possible in a busy school. Within the declared time span, a case study approach had elements which could answer the research questions in the study. The foci were seen as unique, subjective and descriptive and it had the scope to give an in-depth portrait of a related group of schools within a single case study. This case, although not generalisable, has the potential to be analysed to give a deeper understanding of the situation in several schools. Sturman (1999,) also endorsed this when he describes a case study as an investigation of an individual, group or occurrence which may utilise both qualitative and quantitative methodologies to examine the whole phenomenon. Silverman (2000) states that in a case study you can, *make a lot out of a little* and there is every chance of producing a thorough, analytically interesting research study that can be the basis of further research.

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Edwards and Talbot (1999) describe this approach as a unit of analysis with each case having within it a set of inter-relationships which both bind and shape it but can interact with the external world. This case study, though small, would offer empirical research and could be used within each school situation and as a starting point for a larger longitudinal study. The findings could also be applied to other primary and secondary schools in a similar demographic area. Case studies also allow for generalisations. Maxwell (1992) makes a useful distinction between internal and external generalisability. Internal generalisability refers to the generalisability within the study context. External generalisability is generalising beyond that setting. In this instance the findings from the small cohort in the study does not claim external generalisabilty but may be applied to different schools to assist with food choice. This approach takes cognisance of the social situations and can describe and evaluate the similarities and differences between different groups. The limitations of the study approach are acknowledged and do not extend beyond this.

After considering other possibilities, a case study approach, was still deemed to be the most appropriate.

4.3 Types of case studies

The area of research contains complex and esoteric vocabulary that does not lend itself to simple explanations. Various writers identify and categorise different forms and styles of case studies. Yin, (1998) labels these as *exploratory,* e*xplanatory* and *descriptive*. Robson, (2002) offers a similar model in which he identifies three main purposes for undertaking research:

- Exploratory studies setting out to ask questions of and shed light on events, phenomena or situations: they tend to be qualitative.

- Descriptive studies usually combining quantitative with qualitative data gathering with a view to portraying an accurate profile of persons, events or situations

- Explanatory studies attempted to establish causal relationships and provide explanations of the events studied; the research strategy in such instances may be quantitative or qualitative, or a combination of both.

This study fits the description of exploratory case study and its strength lies in using qualitative methods to study an instance in action (Adelman *et al.*, 1989). In this case the instance is several linked schools in one community. It provides an example of real people in real situations, enabling readers to understand what influences parent and pupils' food choice more clearly.

There are several hallmarks researchers use to described a case study approach. Stenhouse (1982) describes the broad styles of case studies concerned with different aspects of educational action, as having the following characteristics:

- A study in action research;

- An evaluative case study;

- An educational case study.

Although this case study has elements from all of the described methods, the description used by Stenhouse (1982) of an action research case study is considered the most appropriate for part of the study. This stems directly from the use of the Mills (2007) text which highlights practical action research as creating opportunities for teacher researchers to choose their area of focus, determine their data collection techniques, analyse and interpret data, and make recommendations based on findings. However, the final choice of approach depends on the purpose of the research.

Robson (2002) describes the task of carrying out research as complicated by the fact that there is no overall consensus about how to conceptualise the execution of the research. He suggests that real world researchers may need to be

somewhat innovative in their approach, not automatically following research traditions.

Some researchers offer useful checklists of criteria that were used to evaluate the extent to which the adopted methodology fitted the qualitative paradigm. In summary, these were, firstly, that this approach would strive to portray participants' experiences and feelings for a given situation (Geertz, 1973). This was the central aim of the case study and secondly, the methods used to collect data should be feasible, descriptive and focus on the principle of triangulation (Miles, 2007). This is illustrated in Appendix 2.

The key features of a case study approach were considered as suitable to the aims and purposes of this type of empirical study. It typically involves multiple data collection methods and accorded well with the second and third research questions, which were essentially to investigate the influences on food choice of parents and children.

4.4 Action research

Although the case study was the underpinning approach, the research also drew upon one other tradition namely action research. Many variants of action research are used; action research is not per se a methodology that lends itself to absolute definition. Kurt Lewin (1946) first used the term *action research* to describe the research method as a way of organising learning about themselves and using the information to try to change. Cohen, *et al.,* (2000) define it as *a small-scale intervention in the functioning of the real world and a close examination of the effects of such an intervention*.

Action research, according to one writer on research methodology, has particular advantages for educational practice:

Action research should contribute not only practice but to a theory of education and teaching which is accessible to other teachers, making educational practice more reflective (Elliot, 1991 p.54).

The essentially practical, accessible and reflective elements identified in Elliot's definition of action research made it an appropriate approach for providing a working framework for use with parents and children in the intervention part of the study. The practical approach made it suitable for enquiring into real-world problems. The research evidence in relation to the effectiveness of the approach will encourage educationalists to reflect on the type of food education provided in schools.

There are many terms used by authors to describe action research. Somekh (1995) in her description of action research stated that it is designed to bridge the gap between research and practice and it is a powerful tool for change and improvement at local level. Action research is used to provide empirical evidence in the form of a working intervention model that could be used in schools to encourage more positive attitudes to healthy eating and raise the profile of food education in schools. This was also seen as a strong reason for using this type of action research approach in the study. When discussing the aims of this type of approach, Zuber-Skerritt (1996) suggests that:

The aims of any action research project are to bring about practical involvement, innovation, change or development of social practice, and the practitioners' better understanding of their practices.

Through the involvement of parents, this part of the study aimed to examine the impact of a planned intervention programme designed to improve food choice within the family. The methodological stances taken in the intervention were based on a notion by Robson (2002) who stated that it is part of a researcher's job to reach some understanding of what is going on and communicate that

information to those directly concerned. The planned intervention met all the criteria stated by Robson (2002) when he describes action research as:

- The improvement of a practice, which, in this study, is a programme designed to inform parents how to select and cook healthy food for the family based on the initiative *Hungry for Success*.
- The understanding of a practice which in this study, enables schools taking part in the study to design a suitable intervention which satisfies the particular needs of the personnel taking part.

Figure 1: Action Research representation of the intervention, based on a model by Lewin.

Intervention

McNiff & Whitehead (2005) reminded the researcher that an action plan is a plan, and not reality. The figure shows that action research has five different stages, each worked through in sequence and these act as a map and not as a set of directives. The model implies that the notion of an initial plan getting less tidy as it progresses is acceptable within action research. This fits well with the study aims and the fourth research question which was to study the impact of an intervention programme. The model of change also fits well with recommendations for implementation and change for different groups involving just parents or parents and children. Action research has the capacity to deal with change, in terms of exploring changes to practice and self-reflection. Kemmis & McTaggart (2005) reminds us that action research is not research done on other people, but rather research by particular people on their own work, to help them improve what they do, including how they work with and for others. They go on to state that action research starts with small cycles of planning, acting, observing and reflecting which can help define issues, ideas and assumptions more clearly.

Action research also has the advantage of being able to be used in almost any setting and can be undertaken by an individual teacher. Cohen *et al.,* (2000) define action research as a small-scale intervention in the functioning of the real world and a close examination of the effects of such an intervention.
The work reported in this thesis seemed to relate well to all of these characteristics especially since action research can be used in a practical situation to enhance the food competences of the participants.

Although there was an element of action research within the work particularly the planned intervention, this method did not wholly fit the purpose of the study. Using action research as the only model would not answer all of the research questions. However, it was decided to use an action research approach in the intervention programme to address the fourth research question. A framework for planning sheet can be found in Appendix 3

4.5 Phases of the research

Figure 2: Timescale for the research

Phases	Research Process	Time
Phase 1: Preparation	Proposal to University's Ethics Committee Permission from education authorities to carry out research in schools	By 2006
Phase1: Administering of data	Approach schools Issue consent forms Issue food diaries Pilot questionnaire	By 2006
Phase1: Data collection	Issue questionnaire Organise pre-intervention group interviews and short questionnaire for pupils	By 2006
Phase1: Data analysis Phase 2: Intervention	Preliminary analysis of questionnaires Analysis of Interviews – parents/pupils Intervention Evaluation of intervention programme	By 2007
Phase 2:	Post-intervention focus group interviews	By 2007
Phase 2:	Analysis and completion of data collected	By 2007
Phase2:	Completion of thesis	By 2007/2008/2009

Phase 1: There were three distinct phases in the research process. The first phase occurred between 2005 and 2006 and involved the initial literature search for issues surrounding young people's health, eating habits and the impact of these on a child's cognitive development. This search contributed substantially to the context setting in Chapter 2. An approach was made to the local Education Authorities for permission to conduct research in the author's own school and the associated primary schools. The purpose of this phase of the research was to discuss the research with Head Teachers and distribute consent forms, questionnaires and to parents and food diaries to pupils. These can be found in Appendices 5, 6,7 and 8.

In this phase, research questions were addressed within the content of the questionnaire and the food diaries. This resulted in data emerging which established demographics and formed a base point on eating habits and shopping trends within the family. The main advantage of employing this method initially is that it provided information that could be probed and expanded during the following focus groups and the interviews with parents and pupils, which followed. The information obtained from this phase of the study addressed the second research question:

What are the stated dietary habits of a specific group of young people and their parents?

Phase 2: This phase of the study, conducted in 2006, involved focus groups with parents and pupils to expand on information from the parent questionnaire on shopping trends and eating habits. The focus groups also explored the main factors influencing food choice in this specific group of parents and children. The information obtained from this phase of the study addressed the third research question:

What do a specific cohort of parents and children consider to be the main the influences on their food choice?

Phase 3: The purpose of this phase of the research was to use *action research*, as part of an intervention programme for parents and pupils. It was conducted in 2007 over a four-month period. A practical approach was used and included field notes, observation notes and evaluation sheets as data collecting instruments. The first aim was to contribute new strategies to help improve food knowledge and parental involvement in schools. The second aim was to provide practical cooking skills to help improve family food choice and was used in conjunction with curriculum materials from the Scottish Executive initiative *Hungry for Success*. These materials are already available for use in pre-school nurseries and Primary schools.

This phase also addressed the fourth research question:

What is the impact on food choice of an intervention programme in a specific cohort of adults and children?

These aspects of the work are fully described in Chapter 5.

4.6 Participants/sample

Ethical approval was sought via the university ethics approval procedures for the study. This is also outlined in detail in this Chapter 4. A copy of the ethics approval is contained in Appendix 4. At phase1, an invitation to take part in the study, a participant information sheet, and letter of consent were distributed to parents in Primary A, B, C and Secondary D. Copies of the correspondence can be found in Appendices 5 and 6. The response rate to the questionnaire is outlined in Table 1 below.

Table 1: Outline of participants

Respondent	Letters sent	Letters returned	% Received
Primary A	21	9	42%
Primary B	23	14	61%
Primary C	30	5	16%
Secondary D	46	43	93%

It is important to acknowledge at this stage that there were administration difficulties with the distribution of questionnaires in Primary C. The absence of the Primary Teacher resulted in a lack of communication with supply teachers. The response rate to the questionnaire was relatively low due to the distribution problems. After attempting redistribution, a decision was made in consultation with the Head-teacher not to pursue this part of the research with school Primary C at this stage. However, any data collected would be included in the final analysis.

The questionnaire was divided into three sections or themes:

- *Structure of the Family*
- *Dietary Habits*
- *Shopping Trends*

Robson (2002) states that this method of presenting data can lose considerable detailed information by grouping certain questions. However, this decision was made because it was felt that some of the questions asked on their own could be regarded by participants as being sensitive in relation to dietary habits and shopping trends. A sample of the questionnaire can be found in Appendix 7.

The choice of pupils and parents was restricted to the schools and the geographical boundaries of the relevant education authority. There were five schools involved in the initial phase of the study, one secondary and four primary schools. Due to the relocation problem of one school, the focus was on the remaining three. It is acknowledged that this slippage lowers the sample and could cause problems with how representative the sample might be to the general population (Robson, 2002). When giving advice about the number of participants Morse (2000) states that it is difficult to predict the number of respondents and depends on several factors: the study design and research design which produces several pieces of data with the same group using questionnaires, focus groups and food diaries: whether the nature of the topic was clear and obvious.

The response rate overall was judged to be sufficient for a case study and the author was confident that the remaining respondents still gave a representative sample of the target group in primary schools since participants possessed the same demographic characteristics such as age, gender and location. However, it is important to state that this research does not claim generalisation beyond the study group in question.

The initial work was dictated by two factors: time and space. Bell (2005) indicates that these are major constraints; therefore, the sample from which the data was drawn had to be manageable within these constraints. At the same time the number and composition of the participants had to be such that they afforded credibility to any new information to which the study made claim. The crucial issue in deciding on the sample was that they had to be pupils and parents who were part of the identified local school community. The second sampling parameter was that the pupils had to be Primary six, seven or Secondary one so that they would belong to the adolescent age group which fitted the research questions and the purpose of the study. For these reasons sampling used in this study is a fusion of purposive and theoretical sampling (Morse, 2000).

Cohen, *et al.,* (2000), state that purposive sampling allows the researcher to *handpick* the cases to be included in the sample on the basis of their *typicality*. They also state that, by doing this, the sample has been chosen for a specific purpose. Handpicking the sample, although not the participants, was obviously a feature of this study because the intention was to seek new knowledge through the emergence of ideas based on the opinions and views of parents and young people. It is important to acknowledge that the researcher's background experience and knowledge of the subject played a large part in this selection. The four schools were chosen on the basis of the above key factors in sampling:

- The size was manageable since too large a sample was unwieldy and intrusive within a school setting; the sample chosen was also within a local school area facilitating access.
- The local authority permitted access to the schools in the case study.
- The sample was decided by a willingness to participate in the study. Since the cohort was drawn from the four local schools, it was therefore considered representative of the pupil and parent population in this area.

- According to the national statistics for free meal entitlement the figures for this cohort of pupils were considered lower than the national average in both primary and secondary sectors.

4.7 Ethical issues and practical considerations

Researchers are expected to be ethical in their approach. Serious consideration must be given to the ethical issues arising from the research questions in a study and on the methods used to obtain data and seek answers. Some authors feel that qualitative research, which is the main focus of the study, is more likely to be personally intrusive than quantitative research (McMillan & Schumacher, 2006).

The participants in the study were parents and children, which raised questions about consent. It is convenient for the purposes of discussion to divide ethical considerations into two categories: those concerning the participants and those concerning the researcher.

Correct ethical behaviour by the researcher was ensured by various measures including, establishing a climate of trust and openness with participants, the assurance that information obtained would be anonymous and confidential, and any written reports growing out of the study and that responses will be treated in the strictest confidence.

Written consent was sought from both parents and children and the study was fully explained at a parents evening in each school and by issuing a participant information sheet and letter of consent to join the study (Appendices 5 and 6). Respondents were assured that they could withdraw from the study at any without giving a reason and were informed that they would have the opportunity to read the final report before publication. No payment was made for taking part but research participants were invited to attend the intervention classes where food used in the cooking sessions was provided free of charge.

Robson (2002) points to the additional ethical implications in *real world* research. The difference for this type of research is that there is a commitment to genuine participation on all sides taking part. It is seen as a collaborative effort between the researcher and the *researched*. For this reason careful discussion of the structure of the intervention programme involving action research was discussed with participating parents and pupils.

The pupil participants raised valuable questions about the issues surrounding working with children. School is a convenient point of access and since this study includes research that involves children themselves reporting and discussing their experiences, Hill's (2004) advice on keeping children informed was closely adhered to. Consent was obtained from each child who took part in the study following a verbal presentation by the researcher. Written information about the study and its implications and an opportunity to discuss concerns was also included at the planning stage. In their capacity as *adult gatekeeper*, agreement from parents or other relevant adults was seen as necessary before the child joined the study (Hill, 2004). Sensitivity on the part of the researcher, who was also the class teacher, was important since children have little autonomy within a classroom situation and have limited control over decisions made by their parents not to take part in the study. As discussed by Cohen, Manion & Morrison (2000) and advice of Morrow & Richards (2002), children were given a real and legitimate opportunity to say that they did not want to participate.

The obligation to protect the anonymity of the research participants was another important consideration and was categorically fulfilled. It was important that the information provided should in no way reveal the identity of the schools or the participants (Frankfort-Nachmias, 1992). When participants agreed to face-to–face interviews assurances were given that names or personal means of identification in the study would not be used.

4.8 Ethics and children

In relation to the involvement of children in the study, other issues have to be considered.

When deciding on the age group of the pupils taking part it was important that the pupils' views were heard. One of the strengths of this research is that it involves children discussing and reporting on their own experiences of food choice. The literature review highlighted several studies on how adult perceptions of what children think, do or need may differ from what children themselves say (Carke *et al*., 1996). This in itself can be problematic for researchers and Hill (2004) questions the relevance of considering the differing views of children and adults taking part in research. This question is underlined by recent critical childhood analysis where it is stated that for too long development paradigms have portrayed children as incomplete adults rather than competent human beings in their own right (James & Prout, 1997; Qvortrup *et al.,* 1994).

There are well-demonstrated distinctions between young children and adolescents in their verbal competence and ability to express them (Berti & Bombi, 1988). For the purposes of this research study children aged 11-14 years who were more than able to articulate their views and opinions than very young children meant that no adaptations had to be made to the questions. The researchers experience with children of this age in a school context confirms that like any adult informants, children are best informed about their own lives and cultures and have an expert role in that respect, It is on that premise this age group was chosen. However, pupils were also given the reassurance that neither they nor their families would be disadvantaged in any way if they declined to take part (Cree, Key & Tisdall, 2002).

Hill (2004) refers to the presentation of research findings and he goes on to say that in qualitative research illustrative narratives, examples and quotes are often

integral to the presentation of the data. Permission to use quotes from participants was sought. These and other recognisable information were anonymised to prevent embarrassment and protect the identity of the young person involved.

4.9 Summary

This chapter has sought to explain and provide justification for the pragmatic approach being adopted by the researcher. The qualitative approach was crucial to exploring and answering the research questions on the influences that exist in determining factors affecting food choice in parents, children and young people. The negotiation of access to participants, observing protocol, maintaining confidentiality, in collecting, recording and reporting findings was carefully planned and adhered to throughout. This approach addresses research questions 2 and 3.

Chapter 5 describes and discusses the specific strategies used within the study to collect data. The cyclical approach and participative aspects of action research crucial to addressing research question 4 are also discussed.

5 Strategies for data collection

5.1 Introduction

The study follows a qualitative approach underpinned by an interpretative paradigm. Chapter 4 introduced the qualitative case study approach with action research, which underpins the framework chosen to develop the study. The important features of this qualitative work were the in-depth interviews and focus groups with parents and children about their food choice. Running in tandem with this is the cyclical and participative action research in the intervention. The present chapter 5 outlines and discusses the choice and use of data collection methods in the context of the schools involved in the study.

5.2 Data gathering and instrumentation

McMillan & Schumacher (2006) state that there are two basic principles of measurement when deciding on data collection methods: validity and reliability. They go on to say that knowledge of these principles should be used to choose instruments and to evaluate the adequacy of data collection reported in the research study.

Cohen, Manion & Morrison (2000) argue that validity is the touchstone of all types of educational research. They identify different kinds of instruments for data collection that were used to evaluate the extent to which the adopted methodology fitted the qualitative paradigm with for example:

- Questionnaires
- Interviews
- Focus groups

Planning a piece of research requires careful thought and the above authors advise the use of a planning matrix. The use of this grid enabled the planning of the research. Coverage of the sample and use of instruments were in place to answer the research questions (Appendices 2 and 3). The methods chosen in the study were, parent questionnaires, pupil food diaries, semi-structured interviews, focus groups and observation notes Using more than one method of collecting data had substantial advantages even though it did add to the time invested in the study. The main advantage was that it allowed rich descriptions to emerge that enhanced interpretation and permitted triangulation. Disadvantages are that the use of several methods generates a considerable amount of data requiring interpretation, coding and analysis (Robson, 2002).

5.3 Questionnaires

Lietz *et al.,* (2001) describe the use of a questionnaire to assess knowledge of nutrition in children as a valuable research tool in the short term. However, they acknowledged that special attention should be given when devising the questionnaire to ensure that the target group in the study are able to complete it. A questionnaire is a widely used instrument for collecting information and providing a structure to a study. They can be administered without the presence of the researcher, and are comparatively easy to analyse. On the negative side, the questions can take time to develop, pilot and refine (Wilson & McLean, 1994). Questionnaires can often lack depth, thus, other methods of data collection are included in the study.

The aim of the questionnaire in this study was to provide background information from parents on eating habits and food choice. The target group in question were busy parents. The overall design and format of the questionnaire therefore, had to be focussed and easy to complete. It was decided to develop new questions rather than rely on locating existing questionnaires to ensure they were fit for the purpose. Respondents were informed of the purpose of each section of the questionnaire to avoid possible suspicion caused by

potentially sensitive questions. Since the participants were asked to return the forms to their child's class teacher in a relatively short period of time, the conciseness of the questionnaire was an important factor in its design.

McMillan & Schumacher's (2006) advice to be aware of the objectives and the way questions will be analysed was crucial to the methodological rigour of the research and phrasing of the questions. Babbie (1998) advises that statements should be clear, consist of a single concept and be free from biased terminology. Every effort was made, at the planning and piloting stage, to ensure that the layout of the questionnaire was easy to follow, the wording clear and jargon free to increase reliability and validity. The use of a flow chart to plan the sequence of questions was invaluable (Cohen *et al.,* 2000).

The parent questionnaire contained questions about food choice and included a personal profile to establish the family unit and shopping trends. A sample of the questionnaire can be found in Appendix 7.
The types of questions included:

- Yes/No to be ticked for basic information about shopping trends and food choice;
- Open-ended responses to school meal provision.

The intention was to maintain a degree of commonality in response formats to establish themes and patterns across the two areas. Only a few open-ended questions were included to generate specific individual responses, as well as an attempt to reduce the time required to complete the questionnaire. It was felt that this would make the questions less threatening, less time-consuming and increase the likelihood of a high response from parents.

5.4 Piloting

Constructing a reliable questionnaire is a demanding but essential part of data collection. It is also important in establishing validity and reliability. Therefore, a draft questionnaire was devised to test for clarity and comprehension with a sample of respondents (classroom assistants) who were not taking part in the study. In the light of feedback from the pilot testing, certain questions were amended to prevent ambiguity. Some of the open-ended questions produced valuable information but were difficult to itemise and code. In the final draft a decision was made to make these sections more concise in the parent questionnaire thus reducing the time it would take to complete and encourage a higher response rate.

The advantage of piloting the questionnaire is that the feedback enabled the researcher to evaluate whether the range of questions suited the purpose of the study. The test-run of the data collection instrument also provided an opportunity to modify flaws prior to conducting the main study and ensure, as far as possible, that the data collection would not be influenced by changes in context.

When planning the questionnaire the design had to gain maximum information about the participants shopping and eating habits. A rating scale for recording answers was explored but ultimately rejected because it was felt that it could restrict responses. The parents' questionnaire was divided into three sections: a personal profile; shopping trends; influences affecting food choice in families. Cohen *et al.,* (2000) advise that as well as identifying the main topic to be studied in the questionnaire, subsidiary topics requiring specific information should be included. They suggest this is crucial to give the researcher relevant evidence about the key elements of the study. This advice was adopted during the construction of the questionnaire for parents.

5.5 Administration

One of the main difficulties in using questionnaires in a school situation is the distribution and collection. One of the strengths of providing a self-addressed envelope for the return of the questionnaire to the researcher was that it helped ensure confidentiality, since the class teacher could not view answers from parents. Thus the participant's privacy was guaranteed.

Parents who replied to the questionnaire were invited to supply names to allow contact to be made in the event of their willingness to attend an interview or take part in the intervention programme. In the accompanying letters participants were once again assured of complete confidentiality and it was stressed that only the researcher would be aware of their identity.

Parents of pupils who did not attend the parents' evening presented another administrative difficulty. The class teacher in the three primary schools was responsible for the distribution and collection of the questionnaires/consent forms. Therefore clear written instructions were provided to make the task as straightforward as possible. Given that this type of questionnaire takes time to complete, every effort was taken to make it short and focused in order to extract as much data as possible.

Cohen *et al., (*2000) suggest a number of practical steps to encourage responses, such as the appearance and structure of the questionnaire, clear instructions for returning and avoiding imminent school holiday periods when questionnaires could be misplaced or overlooked. One major advantage, which the use of the distribution method gave to this research, was the involvement of the Primary six and seven class teacher. He or she could issue a reminder or a replacement questionnaire to the pupil if necessary. Another advantage was that this method of simple random sampling depended on voluntary returns. Participants were from a selection of schools and were given an equal chance of taking part in the study. The voluntary aspect of the study provided the opportunity to include participants from different social backgrounds, income

groups, and ethnic groups. Part of the questionnaire also gave all participants the opportunity to be interviewed or participate in focus groups. The purpose of the interviews and focus groups was to explore key themes and emerging patterns from written submissions to be expanded.

5.6 Food diaries

Edwards & Talbot (1999), state that the usefulness of generally available written information cannot be under-estimated. Food diaries formed part of the *Healthy Eating* and *Health Promotion* on the school curriculum in both the primaries and secondary school taking part in the study.

A seven-day food diary was chosen as the method of data collection for this part of the study (Appendix 8). The aim was to establish an overall view of what pupils were eating on a daily basis. The design of the diary selected was short, simple and from a professional point of view, easy to complete for children of this age and was seen as method of generating data to add thick description to the study. However, it is important to acknowledge the limitations of using this particular method of data collection in this particular setting. The dietary assessment tool used in this study was designed to measure general food choice rather than focus on nutritional intake, which was not the objective of this particular study. However reference will be made in the findings to food intake in relation to Scottish Dietary Targets which are relevant to the context of the study in relation to children's health in Scotland. These targets are fully explained in Chapter 3.

There are several advantages of using diaries in this study. Respondents can use them over a period of time to record eating habits, giving an overview of meal patterns on a daily basis. The diaries were used and retained by the pupil during a class lesson and since it is also used as a classroom resource in Home Economics, within a food or health topic, secondary pupils are likely to be familiar with the food diary to measure food intake. Disadvantages of this method of data collection range from misreporting the type of food eaten, to

changing food intake to show the diarist in a good light (Robson, 2002). The decision to use the diaries was based on the notion by Burgess (1981) who argued that the diaries can be used as a precursor to interviewing. The information was used to add to the focus group questions and provide information for the intervention programme.

Pupils completed their diary stating food and drink intake on a daily basis. It was considered too difficult and time-consuming for pupils to state portion sizes when recording food, therefore it was perceived by the researcher that a normal portion served in schools at lunchtime and recommended by Hungry for Success Guidelines for each age group would be appropriate. It is also beyond this study to state portion sizes from home cooked food.

If pupils wished to take part in the research, written permission was sought from parents, guardians and pupils to use the diary as part of the study. This was possible whether or not parents were taking part in the main research. The same method of data analysis was applied to the diaries viz. themes and patterns about eating habits were studied and noted. The information gained was used to make comparisons with the other schools and age groups in the study and formed the basis of the questions used at the interviews and focus groups.

5.7 Pupil Focus Groups

Focus group interviewing was considered an appropriate way of interacting with pupils in the study schools. McMillan & Schumacher (2006), state that one advantage of this modus operandi is the potential for discussions to develop, thus yielding a wide range of responses. They explain:

Interview schedules provide flexibility and the ability to probe and clarify responses: they note verbal and nonverbal behaviour (p.210).

The purpose of the group interview was to expand answers from the questionnaire and allow discussion on the influences on eating habits of pupils in primary and secondary schools. These group interviews proved to be useful for gaining insight into the area of food choice which was then pursued in subsequent interviews and focus groups (Bogdan & Biklen, 1992). There are also practical and organisational advantages in using this method in the study. Focus group interviews involving children are perceived as less intimidating for the child than a one-to one interview and have the advantage of adding support in the group. It is also possible to hear several different views at once. An important advantage is that group discussions form a natural part of the curriculum and could take place during class time (Robson, 2002).

On the negative side, there are several difficulties with group interviews as highlighted by Lewis (1992): some children dominating the conversation; keeping children to the point and getting beyond the teacher's *expected* response.

The group size presented a challenge for the teacher/researcher. Writers vary in their views on optimum size of the group. Lewis (1992) summarises research to indicate that six or seven is an optimum size, though it can be smaller with younger children. The size of children's groups did present some difficulty logistically. Accommodation is an issue in a busy school. Therefore, for practical and organisational reasons it was decided to use the allocated one-hour class time and conduct the focus groups in the classroom. The focus groups of fifteen and two groups of fourteen pupils in the secondary school and class groups of twelve and sixteen in the primary schools are standard to timetabling logistics therefore to keep disruption to a minimum a decision was not to divide groups. The situation was not as difficult to manage as first anticipated, clearly the researcher's classroom experience was an advantage in this situation and skills such as chairing the discussion and the layout of the open plan room enhanced the quality of the responses.

Edwards & Talbot (1999) state that focus groups are almost impossible to tape record and transcribe effectively especially if you are also running the session. This was a particular problem in the secondary school where the open-plan environment was noisy during the recording of discussions. Nevertheless, the information obtained from these groups proved to be valuable because they allowed the children to express their opinions thus providing useful insights in the early stages of the research study. This was a major factor in the study. The groups, although not ideal, were still manageable with assistance from a second teacher and the classroom assistant.

5.8 Focus groups with parents

In deciding how to complement the questionnaire data, the use of focus groups with parents/carers was considered as an option. The interview schedule and prompt sheet which can be found in Appendices 10 and 11 was piloted with a small group of classroom assistants who are also parents and are not included in the final sample. Minor modifications were made to the questions to reduce ambiguity and improve comprehension. In addition certain questions were slightly re-focused to improve the elicitation of views on the main issues.
Cohen *et al.,* (2000) define a focus group as:

Contrived settings bringing together a specifically chosen sector of the population to discuss a particular given theme or topic (p.288).

The group interaction of a focus group is what differentiates it from other types of qualitative data collection (Morgan 1993). Parent focus groups, although not providing confidentiality, gave participants the advantage of taking part in discussions with other parents. It allowed free and open discussion to take place although Neuman (2004) cautioned against the *polarisation effect* of more extreme views being expressed in the group setting and the differences they might generate. Twenty-one parents/carers participated in the focus groups, nine in one group and eleven in the other. The participants were all females

with school-aged children. In this particular study, it is acknowledged that because of the numbers eleven parents in one group did cause difficulties in recording responses. However, the advice of the above authors to have a second person involved proved invaluable.

The researcher led each session, basing the focus group questions on influences on children's food choice, monitored discussion, probed for additional comments and kept field notes with the permission of the participants. The observer audio-taped all of the sessions recorded and during discussion verified field notes recorded by the researcher (McMillan & Schumacher, 2006). The qualitative data was gathered over a three-week period. The tape recordings were transcribed verbatim and field notes used to collect data from the sessions. Morgan (1993) highlights several major concerns when conducting focus groups were used for verification. One anticipated problem was a participant not turning up on the day; another was the random sampling and the homogeneity of the group. It was also felt that parents/carers might feel uncomfortable attending a meeting in an unknown school. However all respondents who volunteered attended and stated that they were keen to give views and opinions.

5.9 Transcribing interviews

A tape recording of the interview was deemed appropriate considering the open-ended format of the questions and the need for accuracy and objectivity during interviewing. It was considered essential in the study for coding and review purposes. All participants expressed that were comfortable with the use of a tape recorder and understood it was used for accuracy. All transcribed data was coded to ensure anonymity and confidentiality.

The transcription phase proved to be problematic due to poor sound and recording quality. Cohen, *et al*., (2000) offer consolation to the researcher by stating that the words in transcripts are not necessarily as solid as they were in

the social setting of the interview. However inadequate the transcript, the accompanying notes proved helpful and the time spent was justified because the researcher could recall responses as and when necessary. The researcher was able to note patterns and themes on food choice emerging from repeated food selection and explanations.

Once the recordings had been transcribed, and forwarded to the participants for verification, the researcher was able to present a picture of the whole interview. To protect the personal data of the participants, information was stored for analysis by the interviewer and as explained on the information sheet material was stored securely on the researcher's own computer and the interview transcripts were password protected. Participant information was identified by a coding scheme and consent to use and publish quotations was also sought. Participants were once again reassured that under the terms of the Data Protection Act (1998) all information will be confidential.

5.10 Observation during the intervention programme

The purpose of this phase of the study was to evaluate the impact of a dietary intervention programme for parents and children. According to some researchers, this intervention had the design potential to offer experiences of a wider range of healthier, more nutritiously balanced meals (Spence & van Teijlinger, 2005). This interpretation described the core of the intervention in this study although the content and focus changed according to the needs of the group. The cyclical nature of the action research approach allowed adjustments to be made in the case of children being part of the group or a particular issue was flagged up.

Working as a group also had benefits. Askew (2003) discussed the concept of learners constructing meaning and understanding from reflecting on their experiences and dialogue with others. She emphasised the security of belonging

to a group. These studies had an influential effect on the design and structure of the intervention programme.

Action research as an approach in this part of the research is widely viewed as an educative model, a way for individuals and communities to learn and change. It is seen as a way of improving practice and generating new theory (McNiff & Whitehead, 2005). Part of the attraction of this approach was the flexibility it offered. The research question addressed in this part of the study was *the impact of the intervention programme on parents and children* therefore the structure had to reflect this. Literacy and numeric skills were considered when planning for adults and children of different age and ability groups. Organisational skills and experience on the part of the researcher ensured that an appropriate balance of practical activities and food knowledge was achievable within the time constraints.

One major task was how to monitor what was taking place during the intervention and how this could be done effectively. A checklist of themes and patterns using the adapted model by McMillan & Schumacher (2006) is presented as Appendix 14 and was devised to capture what happened during the intervention.

5.11 Generalisability

With any research design, the validity and generalisability within the setting studied must always be addressed. This case study is concerned with explaining and understanding what is happening in this a particular case and in these particular schools. Although it was not within the scope of this study to make comparisons between primary and secondary pupil responses, the patterns and themes concerning what parents and children perceive to be the main influences on eating habits, provide a useful base point for subsequent case study comparisons. The research strategies used in the focus groups to obtain children and parent views could provide opinions which focus on an area not originally covered by other case studies (Robson, 2002).

The use of qualitative research methods to achieve generalisability is not without critics. Robson (2002) highlights a concern as to whether the data collection tools or instruments produce consistent results. He suggests that researchers using qualitative or flexible research methods must be thorough, careful and honest in carrying out the research. Bassey (1999) cautions the researcher against what he calls *fuzzy generalisation* which produces no empirical findings and makes no claim to knowledge. An awareness of potential problems regarding validity, reliability and generalisation during the planning of the inquiry and the advice from other researchers was useful when interpreting the findings. Miles & Huberman (1994) state that using alternate overlapping strategies, for both parent and pupil, in the form of focus groups and questionnaires can help minimise invalidity. To provide a record of the dialogue during the focus group interview a tape-recorder was used to enable the research to concentrate on the interview. A decision was made at the planning stage to use a checklist for speed and accuracy to outline the main points for analysis during the intervention programme. Throughout the study, during the design of the data collection instruments and the interpretation of findings, an awareness of the areas where invalidity or bias could be a threat during the research was recognised and addressed. An audit trail using the suggested overlapping strategies proved useful at each stage of the data collection. These measures helped to ensure the validity of the information collected during the research process.

It is accepted that case study work might run the risk of not being appropriate for wider generalisation when results apply to a small selection of schools. In mitigation, it could be said that this sample is representative of other schools in other areas of Scotland. Consequently, care must be taken when drawing conclusions and comparisons with other children, parents and schools it is acknowledged that this does not preclude and extend the notion of generalisability beyond the specific setting of the study.

5.12 Triangulation of evidence

Triangulation is a widely used strategy in research and is described by some (Mc Millan & Schumacher 2006) as the *cross-validation* among data sources, data collection strategies, time periods, and theoretical schemes. Cohen *et al*., (2000) write:

Triangulation is a powerful way of demonstrating concurrent validity, particularly in qualitative research.

In this study several types of triangulation were used to enhance the rigour of the research and is described by Denzin & Lincoln (1994) as *methodological triangulation* that is using the same method on different occasions or different methods on the same object of study. Cohen *et al*., (2000) state that in educational research this method is the one most frequently used and the one that possibly has the most to offer.

As the object of the research was to discover exactly what factors affect children's food choice, then the axiomatic choice of methods was interview, focus groups and food diaries. The possible problem of conflicting results could have arisen during the examination of the results from the different methodologies. It would then have been important to examine why these trends were occurring and why the data produced conflicting evidence. In this study it was found that the views of parents and children differed considerably.

The decision to use such a variety of instruments to collect data and to implement them at various stages throughout the enquiry was intended to produce as full and balanced a study as possible (Appendix 2). The questionnaires and food diaries detailed the daily or weekly food choices made by both groups in the study. The information from the focus groups and interviews was for the purpose of validating the information to demonstrate

whether perceptions matched reality. The most important aspect was to examine all data from parents and children for validity.

The dietary intervention programme was another way of triangulating findings. The aim of the intervention was twofold: firstly, to validate information obtained from the questionnaires interviews, with parents and children, in the first part of the study, secondly, to answer the research question which was to evaluate the impact of the intervention as a way of increasing food knowledge and food preparation skills. In classifying the observation techniques used, during the intervention, a decision was made to use an informal approach which allowed the two observers to gather information from participants. As a participant observer, using a qualitative approach was considered the most effective way of obtaining data from the groups. The use of a second observer helped clarify the main points. Robson (2002) states that a key feature of participant observation is that the researcher seeks to become a member of the observed group and that this can involve entering their social and *symbolic* world. A clear advantage when carrying out the intervention was that there was a substantial reduction of implementation problems because of prior knowledge by the teacher/researcher (Robson, 2002).

5.13 Analysing the data

The aim of the study, which was to gain a deeper understanding of this complex area, resulted in an inductive research design presented in Chapter 4. The application of this design led to various codes being identified which illuminated relevant themes on food choice from parents and pupils in three primary schools and one secondary school. Some themes namely family structure, eating habits and shopping trends, were extracted from the questionnaire and for clarity are summarised and presented as a profile of each school.

Figure 3: Process of data collection in the study

This shows the progression of the study in relation to the research questions and data collection methods, based on McMillan & Schumacher (2006).

Research Questions

Questionnaires/food diaries   observation   Focus groups/interviews

Themes and Patterns

Categorising and coding data

Data

Recording Field Work-intervention

Addressing the research questions

Richards (2005) describes data as the records of what you are studying by focusing on the event or process, recording it and considering its meanings.

Various methods were used in the study to generate data; therefore it was considered important to have a framework for managing the data and building thoughts, conclusions and theories (Richards, 2005). Figure 2 above describes the data selection process in relation to the research questions and the management of each step taken in recording events and changes throughout the study.

5.14 Analysis of the qualitative data

The first step was to establish a base point on the structure of the family, eating patterns and dietary habits of the family. The term dietary habits refers to food eaten in school, shopping habits and food preparation; all three categories are considered in the analysis with the purpose of providing information about eating trends within the family structure. The reason for this is to put into context and categorise food habits and shopping trends in relation to the family unit.

McMillan & Schumacher (2006) describe analysing qualitative data an *eclectic* activity or one, which borrows from a variety of sources. The choice depends on a personal opinion about which method suits the purpose of the research and should be based on methodological knowledge and intellectual competence. Analysis of the qualitative data complied with the process outlined by Miles & Huberman (1994). It followed a process of *coding*, developing *theme*s and *clustering* of the data in order to reduce the information and subsequently identify the main findings in relation to the research questions. This editing analysis enabled the researcher to search for meanings, interpretations and take notes during the interim analysis. The process, which involved scanning the data after every phase for ideas and strategies, was done throughout data collection. A copy of the field notes matrix can be found in Appendix 12.

The key codes for the data analysis were determined on the basis of the research questions. Predetermined categories in the form of subcategories was used during interviews and focus groups and these served as a good starting

point, which were later refined after checking the validity with the second teacher in the room (McMillan & Schumacher, 2006). This is shown in Appendix 11.

Undertaking the initial analysis on a manual basis was time-consuming but made easier by using a coding system, previously tested for accuracy. On the advice of Edwards & Talbot (1999) a content analysis data sheet using pre-determined categories derived from the questionnaires, interviews, focus groups and observations, helped to make data analysis more manageable. The large number of participants in the parent and pupil focus groups could have been a potential problem when gathering data. The advice of the above authors helped overcome this problem.

5.15 Coding of data

The analysis of a wide variety of research data can present problems. Care and attention was given to appropriate coding of material and judicious design of the research instruments to ensure that structure and order was maintained. This was of particular importance when reporting the findings from the focus groups and interviews.

In order to anonymise and aid categorisation, schools, parents and pupils were assigned a code as shown in Figure 4.

Figure 4: Codes used for the four schools

School	Parent
Primary A	PA1 to 9
Primary B	PB 1 to 14
Primary C	PC 1 to 5
Secondary D	SD1 to 43

Developing a system of coding data depends on the type of data being collected and the research questions being explored. The coding of the data proved to be complicated and the question of reflexivity in qualitative research was important one. There was no doubt that the thoughts of the researcher and the methods, which he/she uses to expand the topic, can impact on the findings. This is indeed relevant to this study, which was based in schools already known to the researcher and therefore a professional relationship already existed with some participants. To avoid the pitfall of researcher prejudice, efforts were made to ensure legitimacy of the research instruments and careful checking for validity. It was decided that a simple system using numbers for each data category would be used for the questionnaires, diaries and focus groups. A checklist was used in the observation of the intervention programme. Themes and patterns, which did not fit the coding, would be examined to establish the value of using the information in the study.

At the same time, as Cohen*, et al*., (2000) indicate, it is very difficult for the researcher to be totally detached from the subject. Others agree that contamination of the data could occur when the researcher is close to the subject (Miles & Huberman, 1994). However, the authors suggest that background knowledge enables researchers to decipher details, complexities

and subtitles that could elude a less knowledgeable observer. The researcher's experiences as a classroom teacher proved invaluable. The simple coding adopted for the study enabled the data to be grouped into themes according to the type of activity and the research question being addressed (Miles & Huberman, 1994). The choice of a simple conceptual structure for coding suited the instrumentation and ultimately the data collection. Given that results are never definitive, the justification for using this method was based on the realisation that you cannot and do not *get it all* therefore the use of a simple structure prevented data overload and aided data retrieval (Miles & Huberman, 1994).

Words used in qualitative data can have multiple meanings. Therefore for the purposes of the study and to aid analysis, the advice of Miles & Huberman (1994), when they describe collecting data and *coding in chunks*, was adopted for phase one of the study. This was particularly useful when translating and transcribing data from the interviews and focus groups where the information was recording in the form of recurring themes and patterns (Appendix 13).

5.16 Summary and Limitations

Acknowledging the complexity of collecting data from a wide selection of sources meant that careful consideration had to be given to recording methods to ensure the data was purposeful. Limitations of the methods prescribed in this enquiry obviously emerged, particularly the audio equipment failure and consequently the difficulty in transcribing information from one of the parent focus groups. Detailed field notes and the use of a themes checklist during the focus group discussions helped in the interpretation of the recording.

It is acknowledged that this is a small-scale case study and therefore generalisations about all children of this age group in Scotland will not be relevant. Several studies (Anderson *et al.,* (1994); West (2004); HEBS (2001), focused on the intake of specific nutrients and were related to young people's

lifestyles, including references to the eating habits of young people. Longitudinal studies, which involved comparisons with other countries, were conducted by, *inter alia*, World Health Organization, 1999, 2004, 2005, and NHS Scotland (HEBS, 2001, 2002, 2003), National Diet and Nutrition Survey (Gregory & Lowe, 2000). Many used data collection methods such as surveys, questionnaires, interviews and focus groups to report on lifestyle behaviours rather than the eating habits of young people. A number of studies were concerned with a particular area such as the influence of the secondary school setting on food practices of young teenagers from disadvantaged backgrounds in Scotland (Wills, Backett-Milburn, Gregory & Lawton, 2006). Others measured attitudes to healthy eating among Scottish school children and were also conducted in schools (Seaman, Woods & Grosset, 1997).

The study had limitations. The weakness in the design of the study was flawed by circumstances. A longitudinal study or a larger sample over an extended period of time to observe the case study would have been desirable. However, the in-depth quality of the data obtained from the case study presented in this thesis was a rich source of information from parents and children.

The time available for the intervention programme was also an issue but accommodation and financial constraints prevented a longer timescale to establish a more thorough evaluation. However the time permitted was sufficient to complete an appropriate evaluation point.

The methodology chosen from the research study produced rich data from parents and pupils. However, qualitative research methodology warrants some caution. Firstly, there is a limitation involving participants. The participants in this study came from only one secondary school and small numbers in the primary sector. The results therefore cannot be generalised to other parent populations.

Secondly, sampling bias may have occurred. Other parents and pupils in the study area might have given different answers. Although care was taken to optimise reliability of the findings through several sources, the potential exists for researcher bias during the data reduction phases.

Thirdly, it would have been desirable to re-visit the schools over a period of time to ascertain whether views had changed. It would also have been useful to interview parents to evaluate the impact of the intervention on food choice in the family. However this was not possible because of the researcher's change of school, HMIE inspections, time constraints and curricular restrictions.

Despite the outlined problems, the intention to produce a credible study prevailed and these previously unforeseen situations were addressed and strategies to overcome them portrayed. Chapter 6 documents the findings from the data collection within the enquiry.

6 Findings

6.1 Introduction

This present chapter focuses on research question 2: W*hat are the stated dietary habits of a specific group of young and their parents?* It presents the findings from the following sources: parent questionnaires; focus group interviews; pupil food diaries and the intervention programme. In order to provide a coherent journey through the findings, the data i.e. questionnaire responses with demographics of the study group, will be presented first using the main themes of demographics, dietary habits, shopping trends and food education/knowledge. The main aims were to identify the majority and minority responses and to establish an overview of the characteristics of the sample group. The use of inductive analysis to systematically code, categorise and interpret the data provided the following explanations derived from the questionnaire to parents.

The information obtained from pupil food diaries will also be presented at the next stage in the data analysis to establish an overview of the eating patterns of children as part of a family structure. Each of these findings will address one of the research questions that emerged from page nine. The data collected from the participants during the intervention programme are also presented.

Results from the demographic section of the questionnaire are presented below. There were 71 participants in the sample. One hundred and twenty questionnaires were distributed either via the pupil or during information evenings. Seventy-one questionnaires were returned (59%). According to Munn (2005), a response rate of 33% is fair to average. This return, therefore, reached a level of representativeness within the sample population.

The data from the questionnaire provided valuable information on the structure of the family unit which was an important consideration in this study.

Respondents were not asked about income levels in the study, since this was believed to be a sensitive issue for the demographic groups involved.

Salient points from the questionnaire were noted for future use during the pupil and parent focus groups and interviews

6.2 Parent questionnaire

The aim of the first section of the questionnaire was to establish the demographic status of the study group. The comments made by the respondents were used as additional information in the interpretation of the findings. A profile of the participants is shown in the five tables which follow.

Parent questionnaire theme: demographics

Table 2: Age ranges of the parents in the study

School	Number of participants	20-30 years	31-40 years	41-50 years	Over 50
Primary A	9	0	7	2	0
Primary B	14	1	8	5	0
Primary C	5	0	3	2	0
Secondary D	43	0	10	33	0

Total number of participants = 71: Primary: 28 Secondary: 43

Table 3: Question 1 - Profile of age groups of children in the family

Age groups	Primary A	Primary B	Primary C	Secondary D
0-3	0	0	0	0
3-5	0	2	0	0
5-12	10	20	9	13
12-18	6	6	3	45
Total	16	28	12	58

Number of participants = 71: Primary: 28   Secondary: 43

Table 4: Question 2 - Number of children who ate in the cafeteria

Pupils in the study	Primary A (9)	Primary B (14)	Primary C (5)	Secondary D (43)	Total
Pupils who ate in school	8	12	5	22	49

Number of participants: 71: Primary: 28 Secondary: 43

Table 5: Question 3 - Number of children receiving a free meal

	Primary A	Primary B	Primary C	Secondary D	Total
No of free meals	0	3	1	2	6

Number of participants: 71: Primary: 28   Secondary: 43

Free meal entitlement is often seen as a measure of socio-economic status without asking participants to disclose their income. Relatively few received a free meal.

Question 4: *No parent stated that the school meal was the main meal of the day.*

Table 6: Question 5 - Number of parents who were happy with the food choices in the school cafeteria

Response	Primary A N=9	Primary B N=14	Primary C N=5	Secondary D N=43
Yes	4	11	4	10
No	3	3	1	12
Don't know	2	0	0	1

Number of participants = 71: Primary: 28   Secondary: 43

The findings from this question were mixed and varied with each school. Overall primary parents showed the most satisfaction with food choice in school.

Primary parent/carer comments from the questionnaire

When invited to expand their views on the quality and quantity of the food parents made the following comments:

- Stodgy food
- Too many *smiley faces* (processed potato cakes).
- Poor combinations e.g. sausage rolls and chips, cabbage.
- Not enough fruit.
- Prefer to provide fresh food and fruit.
- An improvement in the food over the last year, particularly regarding tasting foods from different countries and the absence of chips from the menu every day.

Secondary parent/carer comments from the questionnaire

When invited to comment about the quality and quantity of food available parents indicated that:

- Cash value of a free meal was not enough to purchase a healthy food and drink.
- Too many of the dishes were disliked by pupils.

- The pasta dishes lacked variety and were overcooked. Often the same dish with a different name.
- General selection poor and did not look or smell good.
- Lack of choice for tail–enders. Cafeteria frequently runs out of baked potatoes, salads and healthy sandwiches.
- Depending on the choice of food, the price was often described as representing poor value for money.

6.3 Parent/carer questionnaire theme: eating habits

The second aim of the questionnaire was to establish eating habits within the family unit.

Table 7: Question 6 - Person who decides on the type of food served in the home

Responses	Primary A (9)	Primary B (14)	Primary C (5)	Secondary D (43)	Total
Female parent/carer	6	8	5	26	45
Both parents/carer	2	4	0	8	14
Whole family	1	2	0	9	12

Number of participants: 71: Primary: 28   Secondary: 43

In all sectors the female parent/carer was seen to be the person who decides on the food served in the home. As the children progressed to secondary school it was noted that more became involved with the family in choosing food.

Table 8: Question 7 - Number of times a week the family ate take-away food

Results	Primary	Secondary	Total
None	6	11	17
Once	5	20	25
Occasionally	17	12	29
Total	28	43	71

Number of Participants = 71: Primary: 28   Secondary: 43

Comments from the questionnaire indicated that cost was a significant factor especially for a large family.

6.4 Parent/carer questionnaire theme: shopping trends

Table 9: Question 8 - Main shopping

Type of shop	Primary	Secondary	Total
Supermarket	22	40	62
Local shops	2	0	2
Both	7	5	12

Number of Participants = 71: Primary: 28   Secondary: 43

When asked to give reasons for their choice respondents stated:

- Food was cheaper in large supermarkets

- More choice and own brand selections

- Food from local shops was sometimes not fresh

Table 10: Question 9 - Food items bought on a weekly basis

Items	Primary A N=9	Primary B N=14	Primary C N=5	Secondary D N=43
Fruit	8 (89%)	13 (93%)	5 (100%)	38 (88%)
Crisps/snacks	7 (78%)	9 (64%)	5 (100%)	30 (70%)
Ready-cooked food	6 (67%)	5 (36%)	2 (40%)	12 (28%)
Sweets	7 (78%)	6 (43%)	3 (60%)	29 (67%)

Number of Participants = 71: 28 Primary: Secondary: 43

Table 11: Question 10 - Food regularly bought for family meals

Foods	Primary A N=9	Primary B N=14	Primary C N=5	Secondary D N=43
Cooked Chilled food	6	4	1	10
Tinned Packet food	6	5	1	18
Fresh ingredients to make dishes from scratch	9	12	5	22

Number of Participants = 71: Primary: 28   Secondary: 43
Almost all primary parents stated they cooked dishes from scratch using fresh ingredients.

6.5 Parent/carer questionnaire theme: food information in school

Table 12: Question 11 - Advice about choosing food for packed lunches

Responses	Primary	Secondary
Yes	23	18
No	4	7
Not sure	1	18
Total	28	43

No of respondents: 71: Primary: 28   Secondary: 43

Most of the primary parents wanted more advice. Half of the secondary parents stated they were unsure about the advice.

Table 13: Question 12 - Food information as part of a Primary 7 of Secondary 1 induction evening

Responses	Primary	Secondary
Yes	23	18
No	4	7
Not sure	1	18
Total	28	43

No of respondents: 71: Primary: 28: Secondary: 43

6.6 Findings from parent/pupil focus groups

The research aim of this part of the work was to increase the range of data from the sample population by following up questions and probing more deeply into understanding the issues from the parent questionnaire. The themes that emerged were designed to answer research question two namely: *What are the stated dietary habits of a specific group of young people and their parents.* The format was in two parts. Firstly, this aim formed the basis of the first part of the focus group discussion with both parents and pupils. Secondly, the focus groups also provided an opportunity to explore the factors and perceptions relating to influences on food choice in young people and their parents. It also provided the opportunity to address research question three namely:

What do a specific cohort of parents and children consider to be the main influences on their food choice?

The intent was to understand the perspectives of parents and children regarding the main influences affecting their own food choice and to establish whether the parents' views corresponded with the pupils. To ensure consistency the same questions were asked at each focus group meeting. Appendix 13 lists the focus group probe questions, designed from the research questions and the results from the parent questionnaire.

The results from each of the three pupil and two parent groups were categorised and presented together for clarity in reporting and are described according to common themes derived from analysis of all focus groups collectively and these are, for ease of comparison separated into Primary and Secondary respondents. Representative quotations were also noted in the various response categories. Themes and patterns emerged from the data question by question and were checked for accuracy. On the few occasions when discrepancies or a lack of clarity occurred, the transcripts and notes were reread and evaluated to ensure comments were correctly interpreted (McMillan & Schumacher, 2006).

Where appropriate, the themes have been expanded and accompanied by a short commentary from the researcher to provide further information. Where subsequent questions elicited a similar response, these have been grouped together in the discussion. Direct quotes from participants have been included in italics to support comments. To remind the reader the codes for reporting quotes from the groups is illustrated in Figure 5 below.

Figure 5: Focus group coding

School	Code
Primary parents (9)	P parents A 1 to 3 P parents B 4 to 6
Primary pupils (28)	P pupil A 1 to 12 P pupil B 12 to 28
Secondary parents (11)	S parent D1 to 11
Secondary pupils (43)	S pupil D1 to 43

As previously indicated, identical questions were asked in both the parent and pupil focus groups. To guide the reader through the findings and allow comparisons to be made quickly, the replies are presented together in tabular form. This is followed by quotations from individual parents and pupils.

6.7 Parent/carer focus groups

Table 14: Question 1 - What influences food choice in young people ranked in order

School	Respondents	Main themes emerging
Primary	9	Home background (9) Money available at home (7) Media/ advertising (6) Advertising (5) Peer pressure (3) School to a limited extent (3)
Secondary	11	Peer pressure (10) Home/parents/carers (10) Media/advertising (8) Personality of others in school (9) Money-healthy food can be expensive (11)

Comments from primary parent /carer focus group

When commenting in the focus groups parents/carers described their role as the provider of food in the home and highlighted issues such as cost, time and availability of food locally being important in choosing food for the family.

Theme: Food Choice for the Family

As a parent I buy the foods. She eats what I give her. Parents are the ones who decide (P parent A 1).

I don't have the time or the money to spend when it comes to food .I make quick meals I know they will eat (P parent B4).

Another parent in the group was of the opinion that if children were brought up to eat healthily then they would choose well. Several participants stated that they felt younger parents were more informed about healthy foods than the older generation.

Theme: Food Knowledge

My child decides what they want to eat in school and I am confident he will pick something healthy because he always gets good food at home (P parent B1).

The young parents seemed to be more informed about different foods (P parent B5)

One parent in the group also indicated that food was expensive and to prevent waste they tended to cook what they knew their child would eat:

I tend to cook the same food when I know they like it (P parent B2).

When choosing food for the family respondents agreed that cost was an important consideration. However, as the discussion progressed, the researcher observed that parents mentioned the power of advertising. Three parents stated that they felt under pressure to buy certain foods when shopping with the family and acknowledged that even small children can identify brands of food if it contains television characters.

Some of the comments from the group are shown below.

Theme: Parents and advertising

I have packets of uneaten cereal in my cupboard (P parent1).

They want things before trying them and it is just wasted (P parent A2).

It is sometimes better if they do not come shopping I buy less (P parent B4).

The kids want everything they see on TV you just have to say no (P parent B6).

Seven parents also discussed the impact other children out-with the family had on food choice. Parents further stated that this was a particular concern if the child took a packed lunch to school. One parent stated that if one child had a particular style of lunch box or a particular drink her child would ask for it,

It's about whatever other children take in their lunch boxes. They don't like to be different. I tend to give them what I know they will eat (P parent A 2).

This theme was restated by parents/carers in the group who indicated that peer–pressure was strong even in primary schools,

Some children are very strong and can influence what food my child takes to school especially in the lunchbox. They see someone with a special drink and they want it (P parent B 4).

Prompt: Do you think that older children in the family influence food choice?

Theme: influence of other family members

Sometimes, but for the wee ones it's more us as parents. If his father does not like vegetables or something he won't eat them (P parent B6)

Yes, I noticed that she copies what her sister is eating so it is easier to give them the same food (P parent A1).

Comments from secondary parent/carer focus group

All of the respondents in the focus group were of the opinion that peer group pressure was a very strong influence on food choice outside the home. It was evident in the discussion that although secondary respondents acknowledged the power of peer pressure, parents still regarded themselves as the providers of food in the home. One parent summed this opinion up by stating,

At home we provide the food and they usually eat it because we know what they like. So I suppose the home also influences food choice (S parent D1).

Six of the secondary school parent respondents stated that if adults did not purchase certain food for their child then the food provided would not be eaten. There was however some contradiction in the comments from three parents who stated that the main consideration when buying food for the family was that if the family did not like it then it was a waste of money. Therefore they tended to give them what they wanted.

Parents were very forceful in stating the influence of peers in choosing food especially in school. Eight respondents across the groups stated that children listened more to their friends, than their parents or any other adult. It was interesting to note that the majority view was that boys were more likely to be

influenced by their friends than girls especially in the secondary school environment.

Theme: Parents and peer influence

I think it depends on how strong the personality of the friends. There is more pressure at the high school (S parent D3).

I can't get him to eat a proper meal at home it has to be snacks because that is what his friends eat. It's not cool to eat a full meal (S parent D 4).

I sometimes have to buy snack food because I know crisps will fill them up. I think they eat snacks in school
(S parent D7)

Parents/carers commented that school had a very strong influence on children's food choice. Some examples of comments are shown below.

I am not sure if the high school helps them to recognise what food is good for them (S parent D5).

The school should be giving them healthy foods to set an example (S parent D 2).

The findings from the secondary parents/carer discussion group also highlighted cost as a major influence when choosing food. Parents were particularly concerned about the value and cost of food in school.

Theme: Influence of school on food choice

Money is another factor, the food in school is expensive and the healthy food costs more (S parent D 5).

The healthy food should be cheaper in school to encourage pupils to buy it (S parent D 9).

One parent/carer stated that her child complained about small portions and food being dried up because it had been kept for too long, therefore not value for money.

I do not think the food is value for money. It does not fill them up because portions are too small (S parent D2).

Although it was not a predominant theme in this part of the discussion, it was interesting to note that only after prompting by the moderator one participant mentioned health as an influencing factor in food choice.

6.8 Pupil focus groups

Table 15: Question 1 - Influences on food choice in young people in rank order

School	Respondents	Main Themes
Primary	28	Parents/particularly mother/carers (22) Adverts (16) Peers (14)
Secondary	43	*In school*: Smell (40) Cost (42) Appearance/colour (38) Eat the food they are familiar with (29) Peers (20) *Out of school*: Cost (42) Peers (40) Smell-when you walk past a shop (31) Sounds nice/friends recommend (25)

Comments from primary pupil focus groups

In relation to influences on food choice, the main themes emerging from the primary focus groups in random order were:

- Parents
- Advertising
- Peer groups

Comments from the pupil respondents regarding influences on food choice included the following:

Theme: Parental influence

I like food like pizza we get it at home or a carry out (P pupil A2).

Sometimes we get Spaghetti Bolognese that's my favourite because my dad cooks it at home (P pupil A 8).

When we eat out Mum usually chooses what I have to eat (P pupil B 17).

We all eat the same food at home for dinner except for my big brother (P pupil B12).

Parents make up the packed lunch and I tell them what I like (P pupil B14).

Theme: Advertising

When you see an advert you like on television for say cereal you want to eat the food .I always try to get my parents to buy it for me (P pupil A10).

Funny adverts with a song are best. We talk about it at school (P pupil A 5).

Comments about peer group pressure from primary pupil respondents included,

Theme: Peer influence

Some of my friends have lots of sweets and drinks to have at break time-it makes you hungry (P pupil B12).

I sometimes buy sweets with my pocket money but some people have them bought by their parents (P pupil A 5).

I don't like when others ask you what you have got for lunch in case they laugh" (P pupil A 2).

Comments from secondary pupil focus groups

The main influences on food choice identified by secondary pupils were,

- Smell/appearance
- Familiar foods
- Cost
- Peers

The sensory aspects of food choice were a big consideration for the secondary focus groups. The smell and look of food were important parts of eating and highlighted as being a major factor affecting dietary habits. From the evidence presented, pupils stated that, even if it were their favourite food, they would not eat it if the smell was not right. Several pupils stated that even if they chose the food and it was poorly served or did not look good they could not eat it.

Theme: Smell/appearance

I hate when it is messed up on the plate (S pupil D 11).

The vegetables are a funny colour and dried up. I think they are made ages ago. The salads look better (S pupil D10).

I hate that greasy smell you sometimes get with fried food. It puts me off (S pupil D29).

The colour of the salads look nice but the baked potatoes look dull and boring (S pupil D 7).

When you read what is on the menu it sounds nice but sometimes when you get it, it is just a blob of food (S Pupil D 2).

When commenting on value for money respondents stated,

Theme: Cost and value for money

I think the baguettes are good value but they never make enough. I like the fillings but when they are finished you are left with chips (S pupil D 9).

The soup is really good value and you can have it with a roll (S pupil D15).

By the time you have food and a drink it can be quite a lot. They even charge us for sauce (S pupil D13).

Some pupils highlighted peer pressure as an influence in choosing food within the school setting and there was an admission that within a social environment their contemporaries can sometimes influence what they choose to eat. This was more noticeable with the male pupils in the group.

Theme: Influence of peers

If my pal tells me it is good I might buy it (S pupil D 17).

My friends would laugh if I bought' funny' food such as fruit salad (S pupil D 8).

We you go out at night we either get chips or a pizza because it's cheap and everyone likes it (S pupil D 15).

If I have the money on a Saturday I go with my friends to Mc Donald's (S pupil D 2).

I don't always choose the same as my friends. I make up my own mind (S pupil D 9).

I like the salad baguettes and I am always disappointed when there is none left. I usually wait until I get up the queue and then decide. It could be different food from my friends (S pupi1D14).

Several girls in the group mentioned that they did not like to eat too much food during the day. When asked it they had a meal at home the same group stated that they did not have a big appetite.

Sometimes I am not hungry at lunchtime and I just sit with my friends when they are eating (S pupilD1 9).

6.9 Parent/carer focus group

Table 16: Question 2 - The influence of school on food choice in rank order

School	Respondents	Main Themes
Primary	9	Good influence most of the time (8). See other children eating food and this encourages them to eat (7). Primary pupils have little choice they eat what they are given (7) Children want more advertised foods because they see others with it (4). Supplying breakfast makes them want to go to school (3).
Secondary	11	Substantial influence because they have a choice at Secondary school (11). Not enough food/portions too small (9) Could have healthier choices (9) Breakfast is unhealthy (9) Food kept hot for too long and overcooked this puts children off the food served (9). Negative influence because of queuing for food (7)

Comments from Primary parent/carer focus groups

The majority of Primary parents felt that school had a very positive influence on encouraging children to eat healthy food.

Theme: The influence of school on food choice
The food is nice in school but sometimes they forget what they have eaten. The newsletter tells us what is on the menu each day. I think the Teachers encourage them to eat the food (P parent A 3).

I think the food in school is much better than it used to be I think it is healthier (P parent B 6).

The school can give them lessons on healthy food so that is a good thing but at home the children can sometimes dictate what the family eat because they are fussy eaters (P parent B6).

There is a good choice of two or three dishes (P parent B4).

Nice food but some funny combinations (P parent A2).

When the subject changed to packed lunches, six parents stated that they needed help and new ideas for suitable food to put into lunch boxes.
Two parents commented that,

Parents are in charge of the packed lunch box not the school. Parents decide whether to put unhealthy food in. They come home with suggestions for food in lunch boxes because they see others eating something (P parent B5).

Some new ideas for lunch boxes and after school snacks would be great
 (P parent B4).

Only the primary parent group stated that the school communicated with them on a regular basis about healthy eating. All parents said that primary schools did try to include healthy eating as part of a lesson. Others stated that their child would talk about food they had made in school but this tended to be during Eco Days or Health Week.

Comments from Secondary parent/carer focus groups

In reply to the question on what influence school has on their child's food choice secondary parents had a more negative view of the influence school had on their child's food choice. Several commented on the breakfast foods on offer.

Theme: Influence of school

I think it has a negative influence because of the problems with queuing for food and when they get it is cold. There is never enough food and when they get served they have run out. I think school could have more influence they are there nearly every day (S parent D 4).

*Breakfasts could be better. I don't think a roll with sausage is healthy
 (S parent D6).*

I don't think fried potato scone is good for breakfast (S parent D9)

Providing breakfast in school is a good idea it makes them get up and out in the morning (S parent D 3).

Negative comments about the serving of the food and queues were noted,

My son gets fed up with the long queues. It puts him off eating food in the cafeteria (S parent D 8).

The school does lunch in a rota system so you get the best food when you are first (S parent D5).

Secondary respondents also highlighted cost as a factor in food choice.

Theme: Cost and quality of food

My children don't like school meals because they always have the same dishes. The pasta is the same every day with another name. That's why they don't go. I think the school could make the food more interesting for teenagers (S parent D 7).

My child will not go for a school lunch because she feels the food could be nicer with more fruit and cold salad foods on the menu (S parent D 9).

My daughter has a free meal and the amount is not enough for her to get a main dish and a drink. She sometimes has to go without a drink if there are only the dearer dishes left to buy (S parent D 9).

I think to give them £2 plus a day for food and for them to be hungry, or not eat it, is a bit much especially if there are three in the family (S parent D 11).

When questioned about information available to parents about food choice, seven of these parents stated that they felt that there was very little consultation and communication with school. Discussion with respondents in the parent focus groups would suggest that parents would like more say in the type of food served in their child's school and would welcome an opportunity to view menus. Some comments were as follows.

We have to just believe them it would be good to see it in writing (S parent D4).

If the type of food was written down you would know what was available and quiz them about it (S parent D 9).

6.10 Pupil focus groups

Table 17: Question 2 - Influence school has on food choice - comments ranked in order

School	Respondents	Main Themes
Primary	28	You can choose but mostly you are given the food to eat at lunchtime (24). The food is good sometimes it is the same as my Mum cooks at home (19). Our teacher tells us about healthy food (18). I take a packed lunch because I don't like the food in school (12). I like going home at lunch time (6)
Secondary	43	Eat it because there is nothing else available (36) I think they could cook it better and make it more interesting (31) I don't think it influences me in a good way (28) I wouldn't eat this food at home (16). I think it is ok but small portions (13)

Comments from primary pupil focus groups

The comments from the primary pupils showed that with few exceptions they liked the choice of food in school.

Theme: Influence of school

I think the food is nice I like the spaghetti, my dad makes it all the time (P pupil A 1).

I don't eat vegetables or fruit but I like steak-pie and always try for seconds (P pupil B13).

Pupils interviewed were vague about the influence of school on their food choice. This was perhaps because the word *influence* is a difficult concept for younger children to understand although the moderator did try to clarify what was meant by the word. The pupils described the food that they liked and were looking forward to going to the high school where they would have more choice. Sample comments are as follows.

I can't wait to go to the big school my big brother told me you can buy chocolate cake and other biscuits (P pupil B 17).

You can eat anything you like and I was told there is a good choice of food. I will see when we visit the school (P pupil B16).

I hope there will be chips at lunchtime every day in the big school (P pupil B21).

Comments from secondary pupil focus groups

When asked about the influence of school food on his/her own food choice the replies from secondary pupils were similar to those of their parents and the majority of pupils stating that school food had a negative effect on their own food choice. Thirty-six pupils out of forty-three stated that they only ate the food because they were hungry but would not want to eat similar food at home.

Theme: Influence of school

Most of the food is rotten but I am starving by dinner time and I have to eat it (S pupil D 8).

I like the caramel cake and sponges they are better than the shop ones. The main meals are not nice" (S pupil D 13).

I like the wraps and baked potatoes at lunchtime but sometimes the filling is a bit dry. You have to be quick or they are sold out (S pupil D 5).

In the findings it was noted that several pupils commented about the overall look and quality of the food and described dried up dishes that had been kept hot for a while.

Parent/carer focus group

Table 18: Question 3 - Influence of peers on food choice ranked in order

School	Respondents	Main Themes
Primary	9	Some but only if the parent listens (7). Other children take certain foods to school for break-time or packed lunches that appeal (7). Some children have lots of sweets and crisps and my children ask for them too (6).
Secondary	11	Very strong influence (10) They can encourage children to eat new foods (7) Boys could not be seen to be eating healthy food if their friends don't (6). Weight issues can influence food choice (3).

Comments from primary parent/carer focus groups

The findings in Table 18 above shows that most primary parents were of the opinion that in a home setting peers only influence food choice when parents buy food or drinks requested by their children.

Theme: Influence of peers

Children are influenced by what others have to eat especially if it's a new food. One example was the stringy cheese that's advertised on television. When I bought it she did not like it (P parent B6).

I do not give my child sweets and crisps to school but other parents do and then it is hard to say no (P parent A 1).

I think there should be more information about what goes into a lunchbox to stop pupils eating rubbish (P parent B5).

I heard the school is into healthy eating for lunch boxes so that is a good thing (P parent B6).

Comments from secondary parents/carer focus groups

The main response from parents in the group was that secondary school could have positive and negative influences depending on the child's friends.

Theme: Influence of school
I don't know whether he is going to the chip shop with his friends rather than eating in the cafeteria in school. I often think that he prefers burgers and chips because that is what his friends eat (S parent D7).

If I don't let him eat what he likes in school, I would worry he would eat nothing. I give him money and he buys what he likes (S parent D3).

The relevance of these comments is that it is suggested by respondents that older children in particular are affected greatly by others in their social group both in and outside school.

Two parents commented:

When school friends come round they eat and drink all kinds of rubbish when playing games or watch TV (S parent D 9).

They (children) just eat all the time. You can't keep them going in crisps. I just have to say no (S parent D 3).

During the discussion five parents in the secondary group stated that they allowed children to snack because it gives them a quiet life with no confrontation. Three parents stated that they felt out of touch with their children's eating habits.

Pupil Focus Groups

Table 19: Influence of peers on food choice ranked in order

School	Respondents	Main Themes
Primary	28	Sometimes my friends have food that looks nice (18). I will try it the next time (15). Some people have lots of sweets to eat at break but I don't get that (12).
Secondary	43	Friends recommendations (30) If we are out at night (27). Sometimes I taste what friends have to see if they like it (15). If I like the food I get in some ones house I will ask for it (10).

Comments from primary pupil focus groups

Theme: The influence of peers on food choice

I get hungry at interval and if someone is eating sweets I wish I had them but they will sometimes give me some if they are my friend (P pupil B13).

If the food had a nice look and my friend had it for lunch I would pick that the next time" (P pupil A 8).

Comments from secondary pupil focus groups

Theme: Influence of peers

I sit with my friends and have what they are having. Sometimes we have nothing if we have no money (S pupil D 24).
I get money to buy my lunch but we go to the chip shop instead of school
(S pupil D 18).

We all sit together every day for our lunch; we always get baguettes because everyone does.
(S pupil D27).

As the discussion progressed one of the boys in the group summed it up by stating:

If my friends are going to the chip shop, I have to go with them or I am a Nigel
{no pals} *(S pupil D10).*

Parent/carer focus group

Table 20: Question 4 - Who decides on family meals - ranked in order

School	Respondents	Main Themes
Primary	9	Female parent/carer because food is too expensive to waste and she knows what they like (8). Both parents/carers sometimes (3). Sometimes but not often the father (1).
Secondary	11	The family decides sometimes (9). Female parent/carer (5).

Comments from primary parent/carer focus groups

Theme: Who decides on family food?

My children ask for things all the time but when I am shopping, it is me who decides what food to buy (P parent A 3).

If I am stuck for ideas I ask if they like certain foods (P parent B6)

I don't have money to waste so I buy what I know they will eat (P parent B4).

Children do not have the knowledge to choose food. Goodness knows what I would buy if it was up to them (P parent A 1).

Comments from secondary parent/carer focus groups

Theme: Who decides on family food?

He goes with me to the supermarket for the weekly shopping so I suppose it does affect and influence what is bought (S parent D 3).

I look at what is in the supermarket and what is quick to make for people coming in at different times. It's hard thinking up new ideas so I just stick to the same things most of the time (S parent D 2).

We talk at home about what we like for lunches and dinner that way everyone is happy (S parent D 8).

Pupil Focus Group

Table 21: Question 4 - Who decides on family meals - in rank order

School	Respondents	Themes
Primary	28	Parents/carers (27) Everyone (1)
Secondary	43	Pupils (29). Parents/carers (14)

Comments from Primary pupil focus groups

Theme: Who decides on family food?

Mum and dad/carer do the shopping and decide what to buy (P pupil A2).

We all go shopping and get asked what I want to eat (P pupil B16).

I ask if I could have more sweets but mum does not like me to eat them because they rot my teeth (P pupil A 15).

Comments from secondary pupil focus groups

During the discussion in the secondary pupil focus group it was clear that there were differences in opinion.

Theme: Who decides on family food?

I go (shopping) with my parents and they usually buy what I ask for if my dad is not there (S pupil D 9).

I just put what I like in the trolley and my mum lets me have it (S pupilD12).

I just tell them what to buy even when I don't go with them (S pupil D7).

We all eat different things in our house but I give mum a list of what I like, she usually gets it for me (S pupil D 9).

Several pupils also commented that they cooked their own food at night after school.

I take what I like from the freezer and cook it myself. I tell them what to buy (S pupil D5).

I never feel like eating when the dinner is made so I just get my own later (S pupil D17).

Parent/carer focus group

Table 22 : Question 5 - Children's influence on family food ranked in order

School	Respondents	Main Themes
Primary	9	Home influences food choice, parents make the choices (9). Children lack the knowledge to make choices (8).
Secondary	11	Yes children do influence (9). The home is the strongest (5).

Comments from primary parent/carer focus groups

Theme: Children's influence on family food

At the end of the day we (parents/carers) buy the food for the home so we are the main influence not the child (P parent A2).

What do children know about buying food .We made the decisions it is hard enough making ends meet (P parent B5).

Comments from secondary parent/carer focus groups

Theme: Children's influence on family food

Yes I think they influence the food in the family quite a bit. For a start they won't eat this or that and you end up playing it safe by buying food you know will be eaten (S parent D 8).

Table 23: Question 7 - Eating together as a family: comments ranked in order

School	Respondents	Main Themes
Primary	9	Most of the meals are eaten together every day (6). Sometimes (3).
Secondary	11	Depends on what everyone is doing (9). We try to eat as a family at least once a week (8) Sometimes (3).

Comments from primary parent/carer focus groups

Theme: Eating as a family

I would like to be able to prepare well in advance to save us doing it at night we could all eat together then (P parent B 5).

I eat with the children before my husband come home (P parent A2).

I try to make sure we all eat together as a family on a Sunday (P parent B6).

We eat our dinner with mum after school and we talk about school (P pupil A 3)

Sometimes I eat with my brother but mostly it is with mum and dad (P pupil B15).

Comments from secondary parent/carer focus groups

Theme: Eating as a family

Because I work I can't end up leaving the food for them to heat up/cook
(S parent D7).

We eat as a family on a Sunday because my father comes to eat with us (S parent D 9).

Whoever comes in first peels the potatoes and everyone helps. We all sit down together (S parent D1).

Several parents from both groups indicated that it was difficult to think of new ideas for meals.

I sometimes end up buying and cooking three different dishes because they don't like this or that then you can't all it down together (S parent D 2).

Comments from secondary pupil focus groups

Theme: Eating as a family

I watch television when I come home from school and I eat my dinner then (S pupil D6).

I have a television in my room and I eat there (S pupil D10).

I take my dinner to my room and listen to music while I am eating it (S pupil D7)

6.11 Summary

The findings from the secondary pupils' focus group indicated that meal patterns were perceived to be more flexible and the family rarely ate together. Nine pupils in the groups stated that they liked to eat alone. It would seem that these findings conflict with the opinions from the secondary parent/carer focus groups.

6.12 Findings from pupil food diaries

This section presents the findings from the pupil food diaries completed by participants in the study over a seven-day period and contributes towards Research Question 2: *What are the stated dietary habits of a specific group of young people?*

The content was analysed in categories connected to parent questionnaire in chapter 5 namely: intake of food at breakfast, snacks, lunch, evening meal, drinks, fruit and vegetable consumption. The findings were based on whether the participant ate that particular food from the category in question every day over a seven-day period.

There were eighty-eight food diaries in total, distributed across the four schools as shown in the table below.

Table 24: Food diaries by school

School	Number of diaries
Primary A	12
Primary B	23
Primary C	0
Secondary D	53

As previously stated in Chapter 4, there were no diaries available from Primary C because of administration difficulties. It should also be noted that some parents/carers gave permission to use the food diary but did not take part in the actual study.

Samples are provided in Appendices 8 and 9.

6.13 Primary and secondary pupil food diaries

Table 25: Range of food eaten by pupils on a daily basis over a week

Food item in diary	Primary A (12)	Primary B (23)	Secondary D (53)
Breakfast	9	18	45
Cereal	7	11	25
Toast	5	12	15
Toast /cereal	3	8	12
Crisps	10	21	31
Chips	2	12	29
Sweets	8	17	27
Biscuits	7	12	7
Fizzy Drinks	7	11	29
Still and fizzy	5	6	15
Milk	3	4	6
Fruit	3	3	11
Vegetables	4	15	16

6.14 Summary of findings from the food diaries

The aim of the research question was to gain knowledge from pupils about their eating habits on a weekly basis, both inside and outside school. The findings show that throughout the day sixty-two out of eighty-eight primary and secondary pupils, from all the study schools, ate what could be termed as unhealthy snacks, because of the high percentage of sugar and fat. According to the findings, fifty-two pupils out of eighty-eight ate sweets every day.

Consumption of fruit, which is perceived as a healthy snack, was rarely eaten either at home or in school. It emerged that, only seventeen pupils out of eighty-eight recorded eating fruit on a weekly basis in their diary.

7 The intervention programme with parents and children

'Education authorities should promote partnership approaches and schools should develop mechanisms to deliver partnership working'

How good is our school?
Hungry for Success, Recommendations: 7, 16 (2003).

7.1 Introduction

The study aimed to gain a deeper understanding of the main factors influencing food choice in parents and children in a particular context. The purpose of this phase of the research was to design an intervention programme with two main aims. The first was to contribute new strategies to help improve food knowledge and parental involvement in schools. The second aim was to provide practical cooking skills to help towards the improvement of food choice using a variety of resources including those from the Scottish Executive initiative *Hungry for Success*. These resources are currently being used in some pre-school nurseries and also the primary schools in the study cohort as part of Health Promotion. Secondary curriculum materials will be available for distribution in due course.

The research question addressed in this part of the study was to evaluate *the impact of the intervention programme on a small cohort of parents and children*. The structure therefore had to reflect this. In the construction of the intervention programme, literacy and numeric skills were considered when planning for adults and children of different age and ability groups. Organisational skills and experience on the part of the researcher ensured that an appropriate balance of practical activities and food knowledge was achievable within the time constraints.

The intervention programme was based on the findings from the questionnaire and focus groups. Themes that emerged from parents and pupils stated that it was difficult to find new ideas for family meals that were healthy, quick to make and economical to buy. Pupils were clear about the importance of sensory aspects when choosing food, highlighting the appearance, taste and smell of the food as strong influences. This part of the enquiry will now focus on these points emerging from the data and the research questions in the study. These headings from the questionnaire and focus group findings are listed below:

Primary school issues
- Low cost family food
- Packed lunches
- After school snacks
- Quick dishes for family meal
- Healthy desserts

Secondary school issues
- Low cost family food
- Packed lunches
- Healthy snacks
- Seasonal food
- Food with flavour

These issues translated into the following objectives:

- To give parents and pupils the opportunity to prepare, taste and cook a variety of inexpensive, healthy dishes using seasonal food.
- To provide the opportunity to develop a range of cooking skills to help encourage pupils and parents to experiment with new foods.

- To provide practical information to pupils and parents about healthy family food, packed lunches and snacks suitable for different age groups.
- To provide information and support to enable parents and children to make healthy food choices at home and in school.
- To assess the impact of a school-based practical food preparation intervention aimed at encouraging parents and pupils to cook and prepare healthy food at home.

7.2 The structure of the intervention programme

In line with the cyclical process (Kemmis & Wilkinson, 1998, p.21) which is typical of action research, each practical session had a core or a main structure in line with the research questions and aims of the study. However the approach and content were adapted according to the needs, timing and dynamics of the group. The structure and content of each session was monitored, reviewed and changed if necessary to include a revised programme which was more beneficial to the needs of the group. The intervention was designed for use with parents and school pupils and was widely viewed as an educative model, a way for individuals and communities to learn and change.

One of the aims of the study was to encourage healthy eating choices by providing a range of food preparation skills. Therefore at the core of each session was the Scottish Dietary Targets as set out in the Scottish Diet Action Plan (Scottish Office, 1996). The dishes chosen corresponded with the food groups to match a selection of dietary targets which were,

- Double total fruit and vegetable intake to more than 400g per day.
- Increase bread, particularly wholemeal and brown bread by 45%.
- Increase starchy carbohydrates such as potatoes, pasta, and rice and breakfast cereal.

- Oily fish consumption to double to 88g per week.
- Reduce fat especially saturated fat.
- Cut consumption of confectionery by half for children

The basic structure included weekly practical food sessions including a range of dishes and recipes for family meals, packed lunches and snacks which were adapted to suit a restricted budget. Copies of these recipes and a selection of seasonal food were available for respondents to take home. The intervention targeted four schools over a three-month period with each session consisting of one per week for four to five weeks.

In keeping with the aims of the intervention, the local authority education department provided each school with extra resources to encourage parents and pupils to become more involved in food-based activities linked to the curriculum.

7.3 Findings from the intervention programme

The approach used in the intervention was unobtrusive observation described by Robson (2002), as a typically unstructured form, designed to find out what is going on in a given situation. To avoid over-complication when presenting data, the findings were categorised into the following areas derived from the parent/carer questionnaires, focus groups and research questions:

- Skills and food knowledge
- Confidence
- Attitude to new ideas
- Interaction with group members and researcher

Two of the groups in the primary schools consisted of all female parents while the other primary and secondary school contained one male parent and male and female pupils.

Table 26: Participants in the food sessions

School	Male Parents	Female Parents	Male Pupils	Female Pupils
Primary A	0	7	0	0
Primary B	0	3	0	0
Primary C	0	10	6	4
Secondary D	1	9	3	7

Number of participants in total: 50 parents and pupils

Although this approach was described as informal, during the intervention a checklist which can be found in Appendix 14, was devised to monitor and observe behaviour and to ascertain that the key points and aims and objectives were covered. To assist validity a full discussion about the expected criteria was held with the classroom assistant during the piloting stage so that observations could be conducted.

At the planning stage a decision was made to keep observations as low key as possible to maintain a relaxed atmosphere in the class. Each group member was asked to complete an evaluation sheet at the end of the sessions. These findings are presented in table 27.

7.4 Findings from the Intervention Group A

Primary group A: seven participants, all female adults. Areas being observed:
- Skills and food knowledge
- Confidence
- Attitude to new ideas
- Interaction with group members and researcher

The first aim of the intervention programme in the study was to use observation as a supplementary method of data collection. It was also used to validate the issues emerging during the focus groups. It was important that participants knew from the outset that the purpose was to improve practice and therefore

observation of the group would take place unobtrusively during the sessions. Acknowledging that you cannot observe everything that happens, a clear structure for observation based on the research questions was used. The sessions took place during the day.

Addressing the first area proved to be fairly straightforward. Being an experienced Home Economics teacher/researcher had its advantages in helping to identify skills and knowledge; advantages which may or may not be readily available to other teachers in other schools.

Figure 6: Observation notes for group A

Week 1 Basic Intro to Hygiene and safety. Healthy food choice Prep of different soups and snacks Vegetables in the diet	Initial observation was that there seemed to be a lack of commitment from this group. The concern was that this type of set-up might not work with this mixture of adults. Some participants had problems following instructions and reading recipes resulting in dishes being overcooked or drying up and food having the wrong ingredients. Food Prep skills were low. Two parents stated that, "I don't make anything that does not 'ding' in the microwave". Observation from this group was that children in the household decided on the type of food served. Parents not particularly responsive to new ideas. Some felt that their child would not eat certain foods therefore they would not make it. However, from various discussions everyone enjoyed cooking the food and all group members were pleased to take the dishes home.
Week 2 Family food After school snacks Fruit in the diet Oily fish in the diet	Much better attitude. Feedback from last week's was surprisingly very good. Comments on the previous week's food were that the family had enjoyed the dishes they took home and some participants remarked that they had cooked the dish again. Most of the group seem very confident in their ability to cook and prepare meals and most had definite views on the type of food they would serve to the family. Some admitted that they tended to cook the same dishes because it was easier for them to plan on a daily basis and was less wasteful.
Week 3 More family food Cooking ahead Packed lunches Healthy drinks Low fat snacks Labels on food	Some of the group were open to new ideas but it was difficult to say at this stage whether they would change the routine of the family. New ideas for packed lunches were well received. Problems with child care this week and the time allocation for this session had to be reduced. Parents in this group stated that their older children enjoyed tasting the different food cooked during the sessions. In conversation it was interesting to note that some of the parents were a bit apprehensive coming into school again and were afraid their lack of skills would make them feel embarrassed.

Week 4 Family suppers Low sugar foods Labels on food and drink. Healthy snacks Artificial flavourings and colourings	Participants stated that their children enjoyed the fish dishes which had surprised them as they thought the family did not like salmon. Unsure about the impact of this intervention on this particular group. Two participants freely admitted that they did not do much cooking at home and this was left to the male partner. Their food preparation skills and attitude towards food was more positive and some admitted that they had enjoyed cooking the food. Whether this will change food choice is uncertain from observing this particular group. Dropout rate for this group was high due to childcare.

7.5 Summary (Group A)

Initially group A was difficult to observe. The opinion of the researcher was that three of the participants lacked commitment to the programme although full consultation did take place beforehand as to the needs of the group. Five parents in this group stated in the questionnaire that they bought fresh foods and cooked the food at home. Two parents stated that they did very little cooking at home. The five parents perceived themselves have some knowledge about healthy eating and nutrition.

One parent interpreted this as:

I know what to do to make sure the children get a proper dinner with meat and vegetables (P parent A 4)

Another parent was a nurse, who commented:

I am used to talking about healthy food to my patients (P parent A 3)

The sources of this knowledge were given as their own parents, magazines and instinct. Further discussion in the group identified a limited selection of foods bought on a regular basis. Two respondents stated that it was quicker and easier to cook the same food but acknowledged that the inclusion of five portions of fruit and vegetables was a problem.

The observers perceived skill levels and confidence to be high in three members of the group but it is recognised that the presence of the teacher could have influenced attitudes. Patterns of interaction did alter and stabilise over the sessions. Although not obvious at the start, it was noted that most of the group soon began to show an interest in new ideas and suggestions and recipes to try at home.

This group did present challenges especially with oral and written instructions, resulting in changes being made to the planned programme for the next session. The small number in the group made observation a bit easier and the time scale meant that there was time for the group to interact, relax and engage more with the researcher and others in the group.

The aim of the intervention was to evaluate the impact of the programme to contribute towards the improvement of family food. As the sessions progressed there was a shift in attitude by the participants towards trying out new cooking methods and different foods. Respondents stated that they had successfully tried out dishes at home.

Group Primary B: four participants. Areas being observed:

- Skills and food knowledge
- Confidence
- Attitude to new ideas
- Interaction with group members and researcher

Week 1 Basic Intro to Hygiene and safety. Healthy food choice Prep of different soups and snacks Vegetables in the diet	The level of knowledge about healthy eating in this group was commendable. All seemed to be open to new ideas about all foods. Respondents requested information on after-school snacks. One parent commented that there were weight issues surrounding her child and she was finding it difficult to produce snacks that were healthy and non-fattening. A few social issues emerged during the sessions and a decision was made to concentrate on labelling and methods of cooking.
Week 2 Family food After school snacks Fruit in the diet Oily fish in the diet	A very responsive group open to new ideas and suggestions. Participants were surprised at the conflicting information on food products particularly the low-fat versions. Part of the time was spent reading labels. Participants stated that the family enjoyed all of the food and had requested the soups were made again at home. Discussion about slow-release carbohydrates snacks for children. Skill levels high. A very successful session disappointed in the numbers. Participants stated that timing was an issue as many parents were working during the day. On reflection an evening session would have been an option.
Week 3 More family food Cooking ahead Packed lunches Healthy drinks Low fat snacks Labels on food	Shopping suggestions and after school snacks were popular and enjoyed by all participating families when they were taken home. Parents asked questions about recipes and how they could be adapted to suit the needs of their family. Introduction of seasonal food. Feedback on the risotto was good. A highly motivated group who are interested in trying new ideas. A very successful session .One parent stated, "*if we could get them through the door they would love it*".
Week 4 Family suppers Low sugar foods Labels on food and drink. Healthy snacks Artificial flavourings and colourings	Participants in this group were concerned about the health of their children. They were motivated by wanting to expand the repertoire of dishes for the family and keen to learn new skills. Willing to taste different food. All participants stated that they had cooked some of the dishes several times at home and had a more varied diet. There was a problem trying to get children to eat fish. Parents stated that the sessions had given them new ideas for healthy alternatives in lunch boxes and snacks.

7.6 Summary (Group B)

Primary group B proved to be a small group of parents who were keen to learn about new ideas for family food. The observer perceived that the knowledge base for healthy eating was good. Food information was stated to come from family, friends and books but not school.

The group worked well together and interacted appropriately with the teacher, listening carefully to information and ideas for family food. Two parents highlighted problems specific to this group namely, obesity in children and hyperactivity. Although these issues were not considered in detail in this study, strategies and recipes were suggested for after school snacks and light treats.

Confidence levels for all of the participants could be described as good and it was perceived by the observer that this was reflected in parents/carers being relaxed and confident enough to ask for advice on sensitive matters concerning their own child's eating habits. All parents reported using the recipes regularly at home to vary the family diet. The introduction of different vegetables and fish into the diet and the bag of food to try at home were also commented on by the participants.

One of the challenges for this group was the timing of the school day and child-care issues, which restricted the practical activities, and this had to be addressed at the planning stage. On two occasions parents could not attend which had cost implications. Another challenge was encouraging other parents to join the sessions, after discussion it was agreed that both lack of communication and concern about what would be expected of participants could have been the reasons.

The aim was to look at the impact of this intervention designed to improve food knowledge and cooking skills. It was observed that all respondents did have a basic knowledge of food and cooking so the shift in skills and attitude was not quite as obvious with this group. The reason for this could be perceived as moving on from this basic knowledge to more specific issues such as weight and portion size.

7.7 Findings from primary group C

Number of Participants: 10 parents and 10 pupils - six boys and four girls.
Areas being observed:

- Skills and food knowledge
- Confidence
- Attitude to new ideas
- Interaction with group members and researcher

Figure 8: Observation notes Primary group C

Week 1 Basic Intro to Hygiene and safety. Healthy food choice Prep of different soups and snacks Vegetables in the diet	All participants in the class were keen to learn. The pupils commented that they were pleased to be in the class. Ground rules were established regarding health and safety. This helped build confidence in everyone because they knew what was expected of them in the class. The session went really well. All the participants were keen to learn and enjoyed tasting and cooking the food. Participants commented that they were looking forward to next week's session. Organisation was the main issue with this group. It was important that each pupil had a particular task to complete within his or her capabilities.
Week 2 Family food After school snacks Fruit in the diet Oily fish in the diet	Pupils and parents had done their homework, read recipes and were keen to start cooking. The difference in the pupil's organisation skills and confidence levels was remarkable this week. Parents commented on how their child had progressed and were proud to work with them in a controlled situation. Everyone was willing to taste sample food. Contacted *Good Food Magazine* to congratulate them on the accuracy of their recipes.
Week 3 More family food Cooking ahead Packed lunches Healthy drinks Low fat snacks Labels on food	Literacy and numeracy were key features of this session as well as healthy eating. Pupils and parents commented that it was good to discuss healthy food and be able to cook and eat it. Pupils were keen to sample foods. The opinion of the researcher is that the structure of the intervention that allows parents and children working together is the way forward. This has helped build relationships and enables learning to take place at the same time. Parents were made aware of the food suitable for lunchboxes and were able to taste sample foods.

Week 4 Family suppers Low sugar foods Labels on food and drink. Healthy snacks Artificial flavourings and colourings	Pupils were so keen to start working they are arriving a full half an hour before starting time. The difference in skill level is also noted with less time being spent on giving instructions. One parent remarked on how much more confident her child was generally but especially in the kitchen. Pupils were able to identify foods from pictures and explain to others in the main school what they had been cooking the previous night. Pupils also stated that they enjoyed tasting unusual foods. Parents commented that they now understood a school and classroom set-up and found it easier to identify skill areas such as reading recipes, organising time and generally being aware of what was taught in the classroom. The wide range of activities provided stimulating challenges for the pupils and promoted self-esteem. Several parents stated that they now felt that they had new ideas for quick and cheap healthy food and would try to introduce these dishes into family meals. They could now identify certain foods in shops. There were no dropouts at any of the sessions.
Week 5 Special requests More healthy food	Extra finance allowed us to extend the intervention to week five. Another extremely enjoyable and interesting session. Watching parents and children working together learning from each other and sharing experiences shows how effective an intervention can be. This established framework promotes healthy eating in the school setting and only time will tell if it has been effective in changing attitudes to and perceptions of healthy food choices. This dietary intervention has involved parents, pupils and also the wider school community. The structure provides a new approach that schools could use to inform parents about the health promoting strategies used in school to help improve food choice.

7.8 Summary (Group C)

This was the first of two groups where parents and children worked together. The pattern of interaction observed from the pupils in the group during the sessions was one of co-operation and excitement to be cooking food and taking it home. It was recorded that all pupils enjoyed working with their parents/carers in the creation of new dishes. It was noted that six of the parents/carers had limited knowledge of healthy food and were keen to find out more about choosing healthy food for the family. The pupils in the group came from primary school and had been taught very little food knowledge or cooking skills. All parents stated that in their opinion sole responsibility for buying and cooking food for the family rested with the female parent. It was stated by three

parents that knowledge about food came from family or they relied on ready prepared convenience foods.

It was perceived by the observer that there was a general lack of basic food knowledge and cooking skills with nearly all of the parents and pupils in this group. However it was noted that respondents grasped the necessary concepts quickly and were able to build on these skills over the sessions.

Confidence levels varied in the group according to the reason for attending. One parent stated that she had brought her son to try to build up his skills and confidence after a recent brain operation. Another explained that it was a good way of spending time with his child and the recipes meant that they could make the food again when he visited. It was perceived by the observer that the time scale of the intervention enabled both parents and pupils to gain confidence gradually over a period of time. Pupils in particular were observed to be proud of cooking and preparing the food. One of the challenges of a mixed session of parents/carers and pupils was the content in terms of ground rules for safety, hygiene and behaviour. Another challenge was the recipes and instruction sheets had to be clearly understood by both adults and children. Practical activities had to be varied and suitable for both adults and children.

During the sessions, several issues where highlighted by parents. Cost was an important consideration when choosing and cooking food for the family. One stated:

I cannot afford to throw out food so I tend to cook the same dishes. I need ideas for taking ingredients and adding things to make the dish different (P parent C 3).

When evaluating whether these intervention sessions met the aims of the study and ultimately answered the research question for this group of participants, the following was observed: that the sessions were perceived to encourage food-

based activities; that they stimulated an interest in tasting and preparing a variety of seasonal healthy ingredients; pupils were also able to produce a range of healthy snacks, which could be prepared at home using the recipes provided. These interests were also taken into the primary schools where pupils were encouraged to discuss their food–based activities.

7.9 Findings from secondary group D

Participants: 10 parents: one male, seven females; 10 pupils: three males, seven females.

Areas being observed:

- Skills and food knowledge
- Confidence
- Attitude to new ideas
- Interaction with group members and researcher

Figure 9: Observation notes Secondary group D

Week 1 Basic Intro to Hygiene and safety. Healthy food choice Prep of different soups and snacks Vegetables in the diet	This group had a mixture of male and female participants. The pupil's age range was 11-15 years. Initially some parents were lacking in confidence because of the venue and were nervous about expectations of prior knowledge. All participants were keen to find new ideas for family food and willingly tasted the samples. Overall skill levels in both parent and pupil were high. Pupils had skills from Home Economics classes. Everyone in the group stated that they felt a sense of achievement making the dishes and looked forward to allowing others to taste the food at home.
Week 2 Family food After school snacks Fruit in the diet Oily fish in the diet	One parent commented that she took some of the soup she had made to work for lunch. This resulted in a 'soup' day once a week where everyone took turn to make soup for the group and supply the recipe. Pupils commented that they sometimes got tired of the same dishes and were glad of some new ideas for family food. Confidence among the adults is growing and they are very receptive to new foods. One parent commented that she tries to feed the family healthy food but struggles to fill them up. The soups were a good way of providing healthy cheap filler for her boys.

Week 3 More family food Cooking ahead Packed lunches Healthy drinks Low fat snacks Labels on food	Several parents have commented that providing recipes enabled them to try out dishes at home. They also stated that the recipes were easy to follow at home and did not require too many ingredients. One boy stated that he was so happy to prepare food with his father and they had decided to have one night when he could visit his father's house where they could make supper together. Nearly all the participants stated that the family were keen to know what they were cooking next week and looked forward to the dishes being brought home.
Week 4 Family suppers Low sugar foods Labels on food and drink. Healthy snacks Artificial flavourings and colourings	The group enjoyed working together and this was reflected in the relaxed and non-judgemental atmosphere in the room. Participants knew from the outset that some observation would take place but it was stressed that nothing would be written without permission. The skill levels of parents and pupils in the group have grown and food knowledge has improved. Parents stated they could now recognise more food in the supermarket e.g. butternut squash and can prepare most of it. Many stated that it had given them more confidence when shopping and the knowledge had affected their choice of dishes for the family.
Week 5 Special requests More healthy food	These sessions have made a large contribution to the involvement of parents in the health- promoting aspects of the school.

7.10 Summary (Group D)

The final intervention consisted of the second group of parents and Secondary school pupils. It is important to acknowledge that the observer taught four pupils in this group and therefore bias is possible when collecting and interpreting data.

The first area the study observed was food knowledge and cooking skills. It was perceived that two parents had knowledge about healthy eating and nutrition from their professional involvement and this had the positive effect of enhancing group discussion. It was noted that the other parents in the group admitted to having only a little knowledge of healthy foods and how to use different cooking methods.

Pupils on the other hand had completed either one or two years of Home Economics and therefore were presumed to have varying degrees of basic knowledge of nutrition, healthy eating and food preparation/cooking skills. The content of the intervention took account of this previous knowledge. Overall confidence levels were observed to be fairly good and it is presumed that this was due in part to the relaxed atmosphere acknowledged by nearly all of the participants. During the sessions pupils were encouraged to taste new foods and it was observed that all of the pupils had the confidence to take part in the tasting sessions and give comments.

All of the participants were perceived to interact well with the researcher and others in the group and were open to new ideas for healthy food. One parent commented,

The variety of soups using unusual ingredients has changed what I take for lunch and made it more exciting (S parent D 2).

Another commented:

I think I have more choice of food from the supermarket now that I know how to use it (S Parent D 5).

7.11 Participant evaluation of the intervention programme

Parent/carer

The aim of the intervention was to provide parents and pupils with the opportunity to prepare, taste and cook a variety of healthy food with the view to encouraging good eating habits.

To further assist evaluation, the following set of eight statements was used to gather responses to the intervention programme. The scale was seen as a tool to

measure attitude towards the aims of the intervention programme. A decision was made to keep the evaluations anonymous and therefore the findings are collectively presented.

In the table below, the number'1'indicates strong **ag**reement, while '5' indicates strong **dis**agreement.

Table 27: Participants: Parents: 31 issued, 29 returned

		Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
1	My knowledge of healthy food for children has increased	14	11	2	2	0
2	I have encouraged my children to taste new foods	15	10	4	0	0
3	I have introduced new dishes from the sessions into family meals	16	10	3	0	0
4	I have found the food sessions helpful when shopping for food for the family	11	11	3	4	0
5	My child is a fussy eater	5	5	6	5	8
6	I make different foods for individual family members	9	10	2	0	8
7	Instructions during the food sessions were clear and easily understood	20	9	0	0	0
8	The information I have gained during the food sessions has given me a better understanding of the type of healthy food available in shops	19	7	3	0	0

Comments made by the participants included the following:

I enjoyed the sessions very much. I learned a lot…….great fun! (P parent B5).

Me and my son have had a great time and you have made it really enjoyable (P parent C3).

The classes have been extremely enjoyable, useful and helpful. My child also enjoyed it. We got a chance doing something together. (P parent B4).

I would like to see these classes continuing even if it means we have to pay a fee (P parent C7).

I noticed my children and the children in the class trying food even with the knowledge of what was in it. Months ago this would not have happened (S parent D4).

The food sessions were informative and fun .My scoring of 3 for question 8 is in no way a reflection of the information we received, only our knowledge was quite good to start with. My children now have a new enthusiasm for helping to cook at home (S parent D1).

This was an excellent programme, which I found really helpful and useful (S parent D 3).

7.12 Summary

The evaluations from parents and pupils were very positive, but it should be acknowledged that bias was a factor when interpreting the findings in this particular situation. The practical nature of the intervention did limit the extension of the findings, but at the same time, the experience enabled subtleties to emerge, which were worthy of note (McMillan & Schumacher, 2006).

The perceived enthusiasm and commitment from both parents/carers to trying new dishes and talking about healthy food was encouraging. Answering the fourth research question, which was to assess the impact of the intervention programme on food choice, would take time to complete. The pattern of responses received from respondents did indicate that there was a place for information sessions in schools to help parents/carers become more active in Health Promotional activities concerning children's eating habits.

7.13 Pupil evaluation

To help evaluate the intervention programme and offer suggestions for future sessions involving children and young people, the following areas were verbally explored.

Pupils were asked:

1 .I have found out more about healthy food

In answer to the statement seventeen pupils in the groups stated that they had found out more about healthy food. Two pupils in the Secondary group stated that they already knew about healthy eating from the school curriculum but the sessions gave them new ideas about a range of foods suitable for snacks. Cooking the food made them want to cook at home.

2. I have tasted new foods

When questioned all of the pupils stated that they had tasted new foods. This was reinforced when one pupil commented on eating a selection of vegetables and pasta. She stated,

"I thought you could only have mince with pasta. The vegetables are quicker to make for a sauce and really tasty"(S pupil D 4).

3. I will be willing to try to cook different foods at home

Twenty pupils stated that the sessions made them more interested in cooking food at home for themselves and their family. Two boys replied that because their respective mothers had been with them in the kitchen during the sessions, they could be trusted to cook in their own kitchens.

4. I have told others about my cooking sessions

Primary pupils in group C stated that they were encouraged by their own class teacher to discuss the sessions in class. Pupils stated that they now looked forward to doing more practical food lessons when they attended Secondary school. Six Secondary pupils stated that they were willing to share experiences during practical food lessons.

5. I understood the instructions given by the teacher

Two pupils commented that the recipes and visual instructions were helpful when cooking and preparing food. Six Primary pupils stated that if they were unsure of what to do they could ask the teacher or parent for help.

6. I enjoyed the cooking classes

All of the pupils in the groups stated that they enjoyed the sessions and were disappointed when they finished. The researcher's perception of this was that pupils looked forward to attending classes and working with their parents. It was noted that the Primary pupils arrived thirty minutes early for each class.

7.14 Summary

This chapter presented the findings of the parent questionnaire, pupil and parent focus groups, food diaries and the intervention programme conducted with a specific cohort of parents and children. The aim was to identify factors influencing family food choice by gaining information in relation to dietary habits, and shopping trends. Findings from the data suggest that parents had different opinions from their children on the influences of school and peers on children's eating habits. The findings from the study also indicated that the

food patterns stated in the pupil food diaries reflected to some extent the shopping trends of their parents.

The intervention programme was designed to contribute towards encouraging healthy eating habits and introduce new cooking methods with seasonal food. The conclusion from the data suggested that an intervention if properly structure to meet the needs of the group, could offer schools and parents a valuable contribution to food education.

Chapter 8 will bring together the main themes arising from the data above and discuss these in relation to the research literature in Chapter 3.

8 Analysis and Discussion

8.1 Introduction

The main aims of the research were: to investigate literature on the eating habits of young people and their parents; to establish what a small cohort of pupils and parents perceive as the main influences on their food choice and finally to evaluate whether a dietary intervention could influence attitudes to food choice.

In order to analyse the research findings of the study, this chapter has been divided into two sections. The first section provides an in-depth discussion and analytical review of the findings displayed in Chapter 6 and 7, as they relate to the four research questions. The four research questions provide the necessary subsections. It was found that each question involved many other aspects, some opinions unique to one particular group, but for clarity the main themes or issues from the data obtained from the groups were combined. These themes/issues were:

- Shopping habits in relation to eating habits.
- The influence at home and school on eating habits.
- Food Education and the influence on eating habits.

The second section focuses on methodology. The aim of this section is to provide an evaluation of the research methods used to establish the findings of the study. These research findings are specific to the case study and the particular context described by the participants about their own views and experiences. The information and lessons learned should be of particular benefit to others who may be interested in conducting a similar study. One strength of the research was the cross-participant analysis, emerging from the context of the case and the involvement of the subjects. However, the findings cannot be generalised because of the nature and limitations of the study.

In both of these sections, the discussion will aim to centre on theories and research evidence portrayed in Chapter 3 of the literature review in relation to the findings of the study. As a result of these findings, implications can be identified for the Scottish Government, Education Authorities, and health promotion in schools. A short conclusion encouraging further research in this important field has also been included.

8.2 Addressing research question 1

Research question one asked*: What has been written about the eating habits of young people and their parents?*

To set the scene and establish a base for answering this research question, a full literature search was carried out to establish a general pattern in Scotland about the eating habits of young people and their parents in relation to findings from the study and the themes/issues mentioned above. These findings are discussed in the next section in relation to the study findings.

In general terms, the literature search found a vast array of studies related to health and eating habits of young people, but there proved to be a limited amount of research with parents and children of this particular age group in Scotland. Qualitative research studies on factors influencing food choice in parents and children were also limited.

Eating habits in relation to health and diet-related illnesses in children dominated the research base and confirmed that statistics are demonstrating clear links between low incomes, the use of cheap convenience foods and obesity (National Obesity Forum, 2009). Parental influence was evident in the study findings particularly when shopping and preparing food. Secondary

pupils were also in a position of power when shopping for food with parents regularly consulting their children when deciding on food for the family.

School food continues to remain a problem area in secondary schools but there are some success in pre-school groups and primary schools to introduce children to healthy food such as free fruit and milk. However initiatives such as *Hungry for Success* (2003) designed to tackle Scotland's chronic obesity problems appeared not to have had the desired impact on eating habits. Official figures show that the proportion of secondary school pupils taking school meals has dropped from more than fifty per cent in 2003 to just thirty nine per cent this year (Scottish Government, 2009): England and Wales are also showing a drop in secondary school meals uptake. Pupils and parents in secondary focus group discussions in this cohort study were very vocal about their opinion of school food stating that it was poorly presented, did not represent good value for money and. Findings from the questionnaire also confirmed reasons for this trend and are discussed in relation to the research questions in the next section.

8.3 First theme/issue: dietary habits and the influence on food choice

The aim of this theme/issue in the study was to answer research question 2*: What are the stated dietary habits of a specific group of young people and their parents?*

It also addressed research question 3: *What do a specific cohort of parents and children consider to be the main the influences on their food choice?*

Reference to literature will also be made to address research question one: *What has been written about the eating habits of young people and their parents?*

Data was collected from a total of seventy-one parent questionnaires and eighty-eight pupil food diaries. Data was also collected from parent and pupil focus groups.

Parents particularly mothers have an important role to play in shaping eating habits. This was confirmed in most replies from the primary and secondary sectors, that the female parent/carer was responsible for buying and deciding on food for the family with the male parent taking a less active role.

Evidence from the parent questionnaire in this study suggested that most of the shopping was undertaken in a large supermarket because of the wide selection of cheaper food available. When asked about the food items bought on a weekly basis, twenty-six out of twenty-eight primary and thirty-eight out of forty three secondary parent respondents stated that they regularly bought fruit. This figure conflicts with the evidence from the pupil food diaries where six pupils out of the thirty-five in the study recorded eating fruit on a daily basis. Some parents seemed to be aware of the importance of fruit in the diet, with six parents commenting that they would like to see more fruit on school meal menus.

Comparing these figures with the previously Scottish Government survey on children's eating trends (2008), fruit and vegetable consumption was reported to be high with 85% of children in the survey eating at least two types of fruit a day and a quarter, four or more portions of fruit per day. The survey also stated that the majority of children had a least one type of vegetable a day.

By comparison, evidence from the pupil food diaries in this cohort study revealed that pupils' consumption of fruit and vegetables seemed considerably lower. The intake, for the primary and secondary schools in the study, was perceived to fall below the survey figure mentioned above and the recommended intake of more than 400g of fruit and vegetables per day (Scottish Dietary Targets, 1993). From the data in the food diaries, it was also

noted that the intake of vegetables was higher with nineteen out of thirty-five primary pupils and sixteen out of fifty-three reporting eating vegetables per day, these were mainly potatoes, which contain starch. These findings reflect a similar pattern to research conducted by Bolton-Smith (1991) & Wrieden (1996) which reported that 75% of Scottish children age 4-18 years, did not eat green vegetables during the seven-day recorded period. This study cohort displayed similar findings with results showing that children's consumption of fruit and vegetables on a daily basis was below the dietary recommendations set by the World Health Organization (2008). The implication of this low fruit and vegetable intake can be a key risk factor with regard to chronic diseases, such as cancers and cardiovascular disease and according to the results from the study, falls below the five-a–day target. Indeed, these results state that there has been little progress since the 2003 Scottish Health Survey, which showed that on average children aged 5-15, consumed only 2.6 portions of fruit and vegetables per day. The data in the survey showed that only 12% of children consumed the recommended amount of five a day or more.

According to results from the research in question, by the time children reach secondary school levels the consumption of fruit decreases (Scottish Executive, 2006). This evidence is substantiated by the findings in the food diaries. Discussions with parents during the focus groups and the intervention programme in the study produced conflicting data from the questionnaire. Parents confirmed that introducing fruit and vegetables into family meals was an area of concern. Respondents stated that they were unsure about buying, selecting and cooking seasonal vegetables and fruit. Parents acknowledged that they did know about the value of these foods in the diet however they stated that they had difficulty including five or more portions per day into the family diet.

One parent summed this up by stating,
I would like to buy some of the vegetables like pumpkin from the shop but I don't know what to do with it (S Parent Intervention 2).

Another said:

Fruit tends to be expensive and I only buy what I know they will eat. I don't cook fruit (P parent Intervention 1).

In the questionnaire parents were asked to comment on the amount of snack food bought on a weekly basis. Fifty-three out of seventy-one and forty-five out of seventy-one respondents reported buying snacks, crisps and sweets for the family every week. Pupil respondents in the focus groups stated that they consumed large quantities of sweets and crisps every day, often buying them throughout the day as well as bringing them from home. In the pupil focus groups, some reported that they had fridges in their rooms containing fizzy drinks and sweets filled, they claimed, by their parents. When questioned about the fridges, parents in the focus groups did not admit that this applied to them, but did comment that according to their own children some pupils had fridges in their bedrooms.

Evidence from the pupil food diaries also suggested a pattern of snacking: sixty-two respondents out of eighty-eight stated that consumed crisps; fifty-two respondents out of eighty-eight consumed sweets and sugary snacks; and twenty-six out of eighty-eight ate biscuits every day at break time. It was also noted in the findings, that pupils often recorded these snack foods as a meal. Only one pupil stated that the crisps she ate were low fat. It could be concluded that these snacks added to the overall consumption of sugar and fat in the daily diet for these pupils.

It is recognised that eating habits and food choice play an important role in young people's current and future health (Scottish Office, 1996; Department of Health, 1999). One aspect of diet that has elicited much research in young people is the intake/omission of breakfast and the relevance to school performance. Overall, the literature suggests that good regular dietary habits are

the best way to ensure optimal mental and behavioural performance at all times but particularly in the morning (Bellisle, 2004). Findings from the study showed that seventy-seven pupils in the primary sector and eighty-four per cent of secondary pupils ate breakfast before school. Ninety-two percent of secondary pupils ate cereal. Dietary recommendations suggest an increase in cereals in the diet which is particularly important for the slow release of energy throughout the morning and can prevent snacking. However, it is unclear from the findings whether the cereals have added sugar.

This pattern of snacking was also highlighted in findings from a recent Scottish Government publication (2008) on the eating habits of children in Scotland aged from 22 months. Results showed that a significant number of children consumed sugary drinks and savoury snacks/crisps on a daily basis with 43% of the children in the survey reported as eating sweets or chocolate every day. In the same survey it was recorded that 90% of children ate sweets or chocolates once a day or more. Nine out of ten children in the survey were reported as having crisps or savoury snacks once a week, with almost half eating them once a day or more. This study was conducted with children as young as 22 months and it was obvious from the findings that snacking behaviour was established at a young age. Adults and not children answered the questions in the survey; it could be assumed therefore that parents or carers were responsible for buying and feeding this snack food to their children.

What is immediately apparent from the previously mentioned Scottish Government survey (2008) on eating habits of children aged from 22 months is that snack foods and confectionary were already an established part of the diet for a significant proportion of children.

Data collected from the food diaries in this study of pupils aged 10-14 years confirm that a similar pattern of snacking was also evident in this particular group of children. Parents reported buying snacks and sweets with the weekly

shopping enabling snacking behaviour to continue from primary into secondary school.

Scottish Dietary Targets also recommend a fifty per cent reduction of confectionery for children, given that obesity levels were, and are, especially high in young children. Analysis of the food diaries showed that pupils in all sectors ate sweets or chocolate biscuits on a regular basis throughout the week. Pupils also recorded that they drank fizzy drinks such as 'Irn-Bru' on a daily basis with forty-seven out of eighty-eight stating that they had fizzy drinks several times a day even at home. This increase in sugar can, in some cases, contribute to weight gain and increase the risk of diet-related illnesses such as Type 2 Diabetes, cardiovascular disease and dental caries, among others. Latest statistics published by the Scottish Government (2009) on the Health of Scotland's population in relation to diet has indicated, that although there has been dietary progress there has been no change in the intake of saturated fat, fruit and vegetables, bread, oil rich fish and breakfast cereals. Furthermore the research indicated that there appears to have been an increase in the consumption of non-milk extrinsic sugars (added sugars).

The significance of these findings is a perception of a common thread in the diaries of all the children and young people in the study group: that high sugar foods such as sweets, biscuits and sugary drinks formed part of the daily and weekly diet for this particular cohort of young people. In the light of rising levels of obesity in young people in Scotland where Government figures (HMIE, 2008) report that one in five boys and over one in ten girls aged two to 15 years are identified as obese, the data from the diaries revealed food patterns from secondary pupils in particular which might well be contributing to these high levels of obesity. Parents stated in their responses that they are responsible for buying the snack food as part of the weekly shopping for the family and are not confined to an occasional treat.

Pupils also stated in the focus groups that they received pocket money from their parents and therefore could purchase snacks and sweets going to and from school. This pattern of snacking on high sugar and high fat snacks recognised by the trade names in the diaries was perceived as a worrying trend when it comes to family health.

Qualitative research methodology would warrant some caution. The principal limitation of the food diaries was that the reporting of food intake was restricted to a general overview. Certain brands of food contain different amounts of fat, sugar and salt. Although not within the remit of this study, a more accurate way of measuring food portions would have been desirable. Nevertheless, the results, although limited in scope, were able to present a valuable picture of food consumed by children over a weekly period. A further limitation is the involvement of participants in the focus groups. Parents had volunteered to take part in the study and came from a small cohort; thus, the results cannot be generalised to other parent populations. It is also not possible to establish whether reporting of food in the diary was accurate.

From comments made by pupils in the focus groups, it is clear that eating habits of children and young people are influenced by a complex set of inter-relating factors. Findings from the parent questionnaire in this cohort study also stated that the mother was the main influence when choosing, shopping and cooking food for the family. These findings are in line with a study by Longbottom, Wrieden & Pine (2002), which stated those children's intakes of snack foods, were correlated with that of their mothers', thus emphasising the need for change at family level, if current guidelines on diet are to be implemented.

8.4 Second theme/issue: eating habits at home and school

The aim of this theme/issue was to answer research questions,

Question 2. What are the stated dietary habits of a specific group of young people and their parents?

Question 3. What do a specific cohort of parents and children consider to be the main influences on their food choice?

Home

To answer these questions, further data was obtained from the questionnaires and focus groups. All parents in the primary focus groups stated that they felt that home was a major influence in this choice, but it was clear from the discussion that secondary parents felt this influence lessened as children entered secondary school.

Research shows that parental involvement appears crucial for the implementation and maintenance of new health behaviours because they act as role models and teachers for their children (Perry *et al.,* 1988). Although there are researchers who suggest as children progress, adolescents' personal choices and preferences gain priority over eating habits acquired in the family. It is further suggested that this is due to being open to more choice and freedom. Consequently, with this freedom to choose and be independent, literature states that adolescence may be seen as a period of nutritional vulnerability where lifestyle and eating behaviour, along with underlying psychosocial factors, are important threats to adequate nutrition (Thomas & Frankenberg, 2000; Dennison & Shepherd, 1996). This appears to be a concern with some parents in the secondary focus groups but not the primary parents, with some stating that often their child wants to eat different food from the rest of the family.

One secondary parent summed it up by saying that her child often said,

Don't make that for me. I'll eat later when I go out with my friends
(*S Parent D 6).*

Opinions about the influence of family members also emerged from all the pupil and parent focus group discussions to show that other family members might influence younger children's likes and dislikes. It was evident during discussion with parents in the focus groups that certain foods were not bought and cooked because the person doing the weekly shopping did not like them or lacked the skills to prepare them. These findings are similar to those found in a study by De Bourdeaudhuij (1997) into perceived family members' influence. She stated that when attempting to introduce healthy eating into the family, targeting families, rather than individuals, in nutrition intervention programmes was more successful in changing eating habits. For a long time the family diet is most often seen as the mother's responsibility with women seen as *gatekeepers* controlling the food intake of the family. However, the powerful influence of other family members was highlighted in this study when one parent commented,

If I don't let him eat what he likes, I would worry he would eat nothing (*SD parent 3)*

Although it was clear from the discussion groups in this particular case study, that men/fathers did not actively take part in the preparation of the food for the family, research findings indicate that their part was important in influencing nutrition education and dietary change in the home. This is endorsed by another study, which emphasised that, next to the preferences of men/fathers, the wishes of children play a major role in shaping the patterns of family eating (Pill & Parry, 1989).

It is clear from the findings, especially during the pupil focus group discussions, that pupils were overtly or covertly aware of their power within the family. This is contrary to De Bourdeaudhuij's findings, which show that adolescents do not attribute as much influence to themselves as; they do to their parents. Secondary pupils in the focus groups stated that they could persuade parents to buy certain foods and that they were aware of the influence they possess when choosing family food. This was not evident from the primary focus groups.

One secondary pupil stated,

I just tell them what to buy even when I don't go with them
(S pupil D 7).

Another secondary pupil indicated,

I eat what I like. I get it from the freezer. I know what is in there because they get what I want (S pupil D2).

Another limitation when interpreting the findings from the parent focus groups was that it has to be acknowledged that perceptions held by adults do not necessarily reflect those of their children for choosing food. In their study Kelly, Turner & McKenna (2006), found that 54% of parents disagreed or strongly disagreed that they gave into *pester power* when shopping or choosing food for the family. However, parents did state that they often consulted their children over food purchases when shopping. The perceived influence of peers and family on a child's perceptions of healthy food products is explored in the above-mentioned quantitative study into the influence a child may have on family decision-making. However, the authors below state that the children participating in this Scottish study, aged 5-12 years, may be the influencers and end-users of products bought, but are rarely the buyer or decider as they rely solely on their parents who control the economic resources (Sheth *et al.,* 1999).

The study concluded that parental behaviour shapes food acceptance and this has a most powerful influence on their child regarding consumption patterns of healthy food products.

Parents are role models by virtue simply of going about their every day life in the proximity of their children. They model the practice of shopping, eating habits and food preparation skills without the intention to teach such habits that their children will learn. The study explored what parents and children perceive as the main influences on their food choice. Evidence from the focus group discussions and questionnaire in this study showed that parents controlled the budget in and outside the home and therefore were a strong influence on food choice and eating habits in the family. It was clear from the data in this study that parents purchased food for the family and therefore can positively or negatively shape food habits and influencing food choice.

The pattern of food choice identified in this study mirrors results of past research with the continued preference for snack foods and the absence of fruit and vegetables. The findings in this study indicate that parental influences, in particular maternal influences, appear to affect food choice although it was noted in the focus group discussion that parents did consult their children over food purchases when shopping.

School influence on food choice

School food in relation to influencing food habits was also discussed in the questionnaire and parent/carer/pupil focus groups. The latest figures estimate that from 2005-2007 46% of pupils throughout Scotland eat food in school (HMIE, 2008).

Findings from the questionnaire showed that out of the one hundred and twelve pupils who were identified in the original questionnaire as eligible to eat in the school cafeteria only forty-seven stated they did so. This figure could be seen

as average and in line with the latest estimated figures highlighted in the HMIE document above. It should be noted by the reader that not all of the parents who completed the questionnaire opted to join the study and therefore this accounted for the higher number of participants answering this question.

Since research shows that the school environment is seen by some as important in shaping food choices (Hackett *el al.,* 2003), the uptake of school meals is an important factor in influencing dietary habits. This view was acknowledged in *Hungry for Success* (2002) initiated by the Scottish Government to improve the provision of school meals in Scotland. The report recommended that, in the interest of general health and cognitive development, all pupils should have access to appropriate food choices within a health-promoting environment. Children who eat in school are likely to interact with other pupils during the school day and it is perceived that this could influence certain food choices. When questioned about this interaction, parents in the focus groups and questionnaire confirmed that in their opinion peers exerted the most influence on their child's eating habits and this was strongest in school. To a large extent, from the interview data pupils in the focus groups supported this view.

In recent years school food has changed out of necessity. The New Schools (Nutrition and Health Promotion (Scotland) Act (2007) designed to improve the health of the nation in Scotland has provided legislation to ensure that food and drinks supplied to schools are healthy. With almost half of primary and secondary pupils buying and eating food in school, this bill takes a positive step towards encouraging pupils to adopt a healthy lifestyle that is reflected in school food ensuring health promotion is embedded in the culture of our schools (Scottish Executive, 2006).

However, findings from the focus groups and parent questionnaires indicated that in the study schools the type of food available was still a cause for concern. Acknowledging the importance of the school environment, these concerns are highlighted in the recent HMIE (2008) report on the implementation of *Hungry for Success* in Secondary schools; the recommendation from this is to adopt,

A more rigorous self-evaluation to secure continuous improvement of food provision in schools (HMIE, 2008,p. 44).

To help improve uptake, another initiative introduced by the Scottish Government sets out new nutritional guidelines for Scottish schools from August 2008. The guidelines state that in an effort to improve dietary habits, at least two portions of fruit and vegetables will be served at lunchtime, deep fried foods will be limited to three items per week. Sweets and fizzy drinks will be removed from schools and chips will only be served as part of a balanced, nutritional meal. These guidelines are being constantly reviewed but early indications show that although school meals may be healthier, secondary pupils still are not eating lunches in school with figures at the lowest for a decade (Scottish Government, 2009). The phenomenon has been blamed on opposition to the new healthier options with nutritional experts stating that changing eating habits takes time. However, what is particularly significant in Scotland is that five years after the introduction of healthy eating initiatives there seems to be little progress (Denholm, 2009).

Findings from the questionnaires in the study confirm that primary parents were of the opinion that pupils enjoyed school lunches and that new legislation had made good progress towards achieving improvements in food provision. Respondents stated that they were fairly satisfied with the quality of the food served to their children. In contrast, results from the secondary sector presented a different picture. In line with the HMIE (2008) report, respondents confirmed that progress to improve food was slow in the secondary schools with many parents and children expressing dissatisfaction with the quality, quantity and variety of food on offer. In a wider context this dissatisfaction could have repercussions, since research shows that schools pay an important part in shaping and influencing food choice (Douglas, 1998). This dissatisfaction can result in many pupils eating from fast food outlets or snacking between meals.

This was found to be a common pattern in the secondary pupil food diaries in the study.

Data from the research did not distinguish between what is eaten in school and on the way to and from school. A recent study by (Sinclair & Winkler, 2008) into what children eat during the day outside school and home revealed that in their cohort study purchases of this kind from shops, take-away vans and cafes contained on average 38% of calories from fat compared with the Dietary Reference Value (DRV) OF 35%. Although it was not within the scope of this study to ascertain whether pupils in this study bought and ate foods going to and from school the findings from the food diaries suggest that this could be the case. A more intense study of what pupils actually eat from the shops around the school could be the basis of another study to add to the debate.

In the focus group discussions with secondary pupils it was stated that value for money was important when purchasing food in school although this tended to be secondary to the taste and appearance of the food. The boys expressed disquiet over the size of portions, which in their opinion did not represent value for money. It was obvious that the pupils in this study had a clear knowledge of cost and budgeting for their preferred food and were able to state what they considered to be good, or bad, value for money.

The influence of peers when choosing food was also explored in the focus groups. A study by Hill (2002) acknowledged factors such as peers and the media play a major part in shaping a child's attitude to food consumption, which in turn has a powerful influence on the eating patterns in the household. Qualitative research gives credence to this view. In a study of Canadian adolescent girls, eating and liking junk food was regarded as normal for adolescents and healthy food as an oddity (Chapman & McLean, 1993). According to a study by Berndt & Hestenes (1996) early adolescence also sees a change in the balance of social support, moving from parents to peers. Parents become less important as support providers, although rarely become unimportant.

It has been identified from the findings in this study that peers have some influence over food choice but not as strong an influence as originally thought. Research by Feunekes *et al*., (1998) identified that there were strong similarities in habitual intakes between adolescents and their parents and far less resemblance between adolescents and their best friends. There was some evidence from parents in this study to support the view expressed by Kelly, Turner & McKenna (2006) that once children enter secondary school they are increasingly influenced by peers and have the desire of friendship, acceptance and belonging.

One boy stated,
I'll be a Nigel {no pals} if *I eat all that healthy stuff (S pupil D12).*

On the other hand two girls commented,

Sometimes it is interesting to see what others have chosen to eat but I make up my own mind, I choose my own food (S pupil D11).

Food is a personal choice everyone likes different things (S pupil D14).

Two parents stated,

When they go to Secondary school I just have to take their word that they have bought something decent to eat at lunchtime (P parent A3).

He does not want to be left out by his friends so they all go to the chip shop (S parent D 15).

One parent summed it up,
You don't want them to be left out. As a parent you want them to have what other children get (P parent A 4).

This peer acceptance was highlighted by primary parents but was not in the findings from the primary pupils.

In response to a question on who decides on family food, nineteen out of twenty-eight primary parent respondents stated that they decided on family food and they felt that peers had little influence on their child's food choice. When questioned in the focus groups, all of the primary parents claimed that they had the ability to control the type of food eaten by their child but acknowledged that this control diminished to a certain extent when the child moved to secondary school.

The findings from this study mirror the research by Wills, *et al.*, (2005) on the influence of the secondary school setting on food practices of young teenagers in Scotland. The study suggests that far from being the result of individualised behaviour, school is an important influence on food choice and that a young teenager's eating habits, are deeply embedded in the context in which they occur whether it is home or in school. Brown *et al.,* (2000) took this a stage further and argued that the food behaviour of children can be altered, depending on the environment in which they exist. The findings from both primary and secondary pupils in the focus groups would seem to endorse this research that the social context, whether it is school or home can influence food choice. In other words, innate tendencies are readily shaped by the situations in which food is made available (Hill, 2002).

Secondary pupils were quite clear that smell and appearance are important issues in food choice. Of the secondary pupils in the study cohort only a small percentage took school meals, although figures were higher in the primary sector. This trend has been attributed to the new healthier options and food with less salt fat and sugar being introduced into schools. Schools therefore have powerful role to play in encouraging pupils to taste new foods to ensure children's papilla are fully developed to appreciate good quality food. This appreciation should extend to an awareness of where food comes from, thus

linking the knowledge to health promotion and good eating habits. Consultation with pupils is vital when deciding on school menus.

It was clear from pupils in the discussion groups that unless the problems associated with taste and presentation of food are addressed and better understood, it is unlikely that pupils will have a positive attitude towards food in school. This negative attitude towards school food was also present during the secondary parent focus group discussions. Parents stated that this opinion came from their children rather than seeking their own information.

Unlike Swedish schools, where there is often only one main dish on offer, secondary pupils in Scotland are given a wide choice of food. Findings from the study show that parents were of the opinion that younger children in primary and year one of secondary school were faced with too much choice and were sometimes overwhelmed by the availability of the vast array of food. Some critics are of the opinion that this choice puts these pupils at risk from both unhealthy eating and the variety of consumer choice that exists in schools. Higgs & Lean (2008) are of the opinion that unless choice is restricted this could be a health disaster for children. Lean (2008) and Ferri (2004) also state that until caterers are properly trained, as in Sweden, to prepare meals that are attractive, consumed, enjoyed and remembered by children, the uptake of school meals will not improve. Secondary parents were critical of food choice in school. There were more positive attitudes about school food from both primary parents and pupils in the study.

School meals should be part of the educational process which provides a valuable opportunity to practice what children learn in subjects like Home Economics. Participation rates and acceptance of the food on offer can be improved by presentation and quality of the food available. It is acknowledged that quality varies country-wide, therefore the training of food service staff in the particular needs of the age group in question is an essential part of improving uptake. Involving pupils, informing parents and all staff members of

the development of school-based healthy eating projects targeted to meet the needs of each school, rather than a *one size fits all approach*, encourages ownership. Parents stated in the focus group discussions that they knew very little about the food available to their child in school.

The current tension that exists as the Scottish Government seeks to extend free meal provision similar to Sweden (Ferri, 2004) is exacerbated by the economic burden it places on Scottish councils who cannot afford to deliver free school meals without additional resources. However well meaning this provision might be it is important to involve and include the views of parents and pupils in any decisions about food provision. Findings show that although primary parents were mainly positive about the food choice in school, they would welcome a more active role in discussions about the range of food available to pupils in schools. However, it should be noted that some of the parents belonged to parent/teacher groups in two of the study schools but this involvement was mostly unstructured and attended by only a small number of mothers. Lawson (2003) identified lack of ownership in any programme as a barrier to success. Poor communication as to the vision and implementation of any health promoting initiative in schools involving children's eating habits can lead to confusion and lack of support. Lack of communication was perceived to be a major barrier to the success of these health-promoting activities to improve eating habits in children in two of the primary schools and the secondary school in the study. Setting up communication systems that will allow parents, teachers and pupils to be aware of the purpose, policies and initiatives could help to raise awareness and disseminate information (Lawson, 2003).

The role of media influence in food choice was acknowledged in the primary parents focus groups. In the case of younger children, respondents stated that cartoon characters, television programmes and jingles could sometimes be effective in trying to persuade them to buy what their child wanted. But according to primary parents by far the strongest influence was other children.

When questioned secondary parents stated that the influence they were subjected to by their child was implicit rather than explicit and when prompted by the researcher who stated that this was described as *pester power*. Three primary parents and five secondary parents agreed that they bought something for *a quiet life* even if they knew that their child would not eat it. Since the majority of advertised foods aimed at children were high in fat and sugar, new regulations have been introduced to prevent advertising which is in conflict with recommended dietary guidelines.

8.5 Summary of findings from parents and children

In summary the data from this study generates three important questions in relation to influencing food choice. Firstly, the qualitative evidence gives credence to the view that school meals provision in this Secondary school is not fulfilling the needs of the pupils (HMIE, 2008).

Secondly, data from secondary pupil food diaries in this cohort shows little evidence of regular healthy eating patterns with snacking often replacing a meal. Primary pupils also stated that on a weekly basis thirty-one out of thirty-six respondents ate crisps every day. Twenty-six out of thirty–five ate sweets. All of these snacks, high in fat and sugar were identified by trade names. Recent figures published by ISD Scotland (2008), the statistical wing of the NHS, state that obesity levels in Scotland are the second highest in the developed world behind USA. It is estimated that one in five children in primary seven were clinically obese in 2004/2005.The public health information report states:

These figures provide little evidence that current approaches to obesity are having any impact.

Tory Health spokeswoman Mary Scanlon commented that the findings from the above report were *horrific* stating that,

This sends a clear message that we need to start educating people about the dangers of an unhealthy lifestyle, starting with mothers in anti-natal classes (Scottish Obesity Report, 2008).

This poses the important question of whether there is enough food education on both the primary and secondary school curriculum and whether there is adequate advice and support for parents in this important area of health promotion.

The research question was to establish the main influences and factors affecting food choice from a young person's and parents perspective. Evidence suggests that according to this cohort study group, parents and not peers have the most powerful influence on eating habits. Examining the data, it is perceived parents are ultimately responsible for purchasing food for the family and in turn shape dietary habits from an early age. The role of parents and carers parental attitudes in influencing children's eating habits must be recognised. School has been identified as being the main source of nutritional/healthy eating knowledge and the importance of this cannot be over-emphasised (Douglas, 1998). To achieve this objective, more emphasis must be placed on food knowledge and food provision in schools respectively.

From the evidence of the discussion groups with young people and their parents in this study, it was clear that the sensory quality of the food in school was an important factor influencing the food choice of young people in this study. The way food is cooked and presented is an important factor in children's food choice. In the long term if *Hungry for Success* and the concept of *A Health Promoting School* are to be successful in changing attitudes and eating habits, factors influencing children and adult's food choice needs to be more fully investigated and understood. The challenge for schools and education

authorities is to ensure that the gap between food knowledge and practice is bridged and that the notion that children cannot contribute in discussion about matters affecting their health is properly addressed (Alderson, 2008).

This chapter has been concerned with analysing the findings from the data in the study in relation to the research questions. It was established that both parents and pupils in the study cohort had their own particular view on what influences food choice. These views were often in conflict. The focus on family members in relation to influences on food choice is also reported in the findings but female parents/carers play a key role in shaping and influencing the type of food bought for and served to their child. The involvement of children must be encouraged because according to Grover (2005) children who can represent themselves and other children increase their resilience and positive self-concept.

The intervention programme was developed for parents and pupils to encourage and expand healthy eating choices in line with the health promoting schools and *Hungry for Success* initiative. The concept of empowerment is particularly important in this study. It is about everyone, regardless of socio-economic background, having the knowledge about food to make informed choices about his or her health in relation to the food they eat. The findings from the intervention programme are analysed below.

8.6 Analysis of data from the intervention programme

Research Question 4: What is the impact on food choice of an intervention programme in a specific cohort of adults and children?

The final research question to be addressed in this study was to evaluate the impact of an intervention programme with parents and children. An action research approach was used to design a model for use in schools building on a perspective of parental involvement in an intervention outlined by Stead *et al.,*

*(2004).*The purpose of the intervention in this study was to focus on family members as educators of children in the home (McMillan & Shumacher, 2006). This action research model values the involvement of parents since the findings from this study indicate that mothers are the *gatekeepers* of the family and are mainly responsible for choosing and cooking family food.

The focus of this action research is participatory evaluation (Cousins & Earl, 1995) and empowerment evaluation (Fetterman *et al.,* 1996) as outlined in the methodology Chapter Four. The cyclical process (Kemmis & Wilkinson, 1998,p.21) was chosen because of the number of sessions which were adapted to variables such as time, food availability and parent/child ratio over the period of data collection. Each session involved:

- Planning the sessions to suit participants needs
- Observing what happens and introducing change.
- Reflecting on the processes and consequences for further sessions in other situations.

The themes that emerged from focus group discussions with parents and children identified at least three main issues participants perceived would help influence family food choice. These issues were: to provide a variety of cooking skills and food preparation skills that would introduce low-budget seasonal family food, ideas suitable for healthy packed lunches and after-school snacks which would also incorporate dietary guidelines. Although the issues changed according to the needs of each specific group, the basic themes did not change. These different aspects are: to empower parents by giving them a variety of options when choosing family food, to provide a range of cooking skills and to instil cooking confidence. Each of these aspects will be discussed in turn.

Robinson e*t al*., (2000) argue that the state cannot expect people to take control of their health if they do not know how to cook, shop, and discriminate. They

also argue that cooking skills which may currently reflect and exacerbate the dietary, shopping and social exclusion divide might be a vehicle for their restriction. Cooking as a skill is capable of being adapted and changed according to time constraints, seasonal availability and new technology. New influences on cooking with the introduction of innovative production and processing methods were also recognised in this study. The researcher is of the opinion that careful planning, selection of food, cooking methods, and changes in technology, can be used to advantage. These choices can offer greater control over family food without the reliance on ready-made convenience food. The intervention programme in this study is based on that premise.

Findings from this study illustrated that according to participants the female parent/carer were responsible for shopping for food. These findings were in line with research by Lupton, (2000) who stated that despite new technology, and the thrust of equal opportunities legislation, men still do not equally share the burden of cooking and housekeeping. Discussions with parents and children in the focus groups confirmed that mothers/carers were ultimately responsible for choosing and cooking family food. This is also recalled in Lang's & Caraher's study (2001) which confirmed that the responsibility for cooking has not shifted and the gender gap still exists with eighty per cent of women cooking every day compared to twenty per cent men.

Respondents in the intervention programme also reflected these findings when it came to gender, with volunteer parent groups consisting of one male and the rest female.

Two groups consisted of parents and children working together but this was a mixed ratio of 10 female parents, six boys and four girls: Secondary D consisted of one male parent, seven female, two male pupils and six female pupils.

The researcher's observations from the intervention perceived that the respondents' dislike and knowledge of how to cook and serve certain food such as fish, was a barrier to these foods being served at home. Personal preferences to do with food choice often influenced the person who buys the food (Connor *et al.,* 1998). To encourage participants to expand food knowledge this was considered when planning the range of dishes. Extra pre-prepared snacks were provided to allow group members to taste and discuss different foods, which could easily and cheaply be prepared for the family. Comments from participants were:

Comments from respondents

I would never have thought of putting mackerel in a pate. It is so tasty and easy to make. I think my family would definitely eat that (P parent A6).

That bean pate is great and so quick to make. I could take it for my lunch (S pupil D3).

Putting the small portion of food in colourful containers is a great idea. Small children would love that (P pupil B3).

The secondary pupils' focus group discussions also highlighted sensory factors as being a significant influence on food choice. To address this issue tasting sessions during the intervention provided an opportunity for parents and pupils to sample previously unknown foods and help promote foods such as oily fish and low fat produce. Mela, (1999) in his study on food choice claimed that, even in *blind* experimental conditions, subjects have their own opinions, beliefs and ideas when faced with the test situation. The observations from the intervention sessions confirmed that with one exception in the primary group all participants were keen to taste the sample dishes and experiment with different flavours and foods.

Observations from the sessions also noted that perceived family likes and dislikes directed the type of food served in the home. This theory is in line with Stead *et al.,* (2004) who stated in their research that the deciding factor in food choice may be related more to family preferences and practical and environmental constraints, than to the ability to cook different foods. They concluded that this raises an important public health issue, and that cooking classes or dietary interventions can only partially address this important area. Part of the observations in the intervention was to note how attitudes to food changed throughout the sessions. Participants had the opportunity of allowing families to taste the dishes they took home. Only positive comments were noted from participants when they returned for the next session. They were perceived by the observer to have the confidence to discuss preferences and family comments for certain food.

Findings from the parent questionnaire indicated that most of the food bought by them on a weekly basis consisted of fresh ingredients and the food was cooked from *scratch* for family meals. This term was interpreted by the researcher as buying fresh, raw foods and turning them into appropriate dishes. The researcher perceives that during the observation there was little evidence to support this claim. In discussion with parents they indicated that they often bought tinned and packet soups and ready-made sauces to use with chicken or beef. The reason given for this was that participants often felt unclear about buying and using different foods especially fish and vegetables they had seen in the supermarket.

It was noted that there was little evidence from parent and pupil respondents during the focus group discussions that knowledge of healthy eating was a major factor in the choice of food for the family. When questioned and prompted in the focus group discussions, one pupil summed up the feelings of the group by stated that healthy food was just salad and *boring*. The structure of the intervention programme took account of these views and built dietary

targets and healthy cooking into the sessions in a natural way rather than a topic in its own right (Stead *et al*., 2004). All of the food formed part of dietary guidelines and participants were given the opportunity of acquiring skills to enable them to cook the dishes again at home by using the recipes provided.

Designing and implementing this intervention stemmed from focus group discussion with parents and was seen as a useful starting point for initiating dietary change. The programme addressed the issues of healthy food for the family, freezing foods for convenience and time and cost factors when cooking. Although it was not clear from the findings that cost was a major consideration, it was obvious during the intervention that parents felt that purchasing food they knew their child would eat was a major consideration. Respondents were able to discuss local shops and special offers available from large supermarkets with the rest of the group. The social aspect of learning from each other was also obvious from the observations.

When comparing the attitude and knowledge base of the parents and children before the intervention, observations suggested that confidence levels and cooking skills in the group generally increased. The confidence level of each member of the group varied from admitting to always cooking the same foods to being reluctant to try different food. In one primary group respondents stated that they did not have the confidence to cook certain foods. One parent stated,

Up until now I only made things like chicken and stew. When it comes to fancier things like spaghetti Bolognese my husband makes it (P parent C7).

Another parent commented that she made soup and felt confident to take it into work for her lunch. She stated:

As a result of this we now have a soup day every week and take turn about bringing it in. Everyone comments that my soups are unusual and asks for the recipe. Boston Bean was the favourite (S parent D6).

Not every member of the group was confident. The findings of the study also show that three parents in one primary group and four parents in the secondary group constantly needed reassurance. For example several questioned their own ability by stating:

Is this right? Is this how you do it? (P parent B3, P C1, S parent D5, 3).

The timing of the group sessions was a consideration. Because of child care issues on two occasions the size of the group was disappointing and could not include pupils because it was held during the school day. On reflection a more flexible timetable for this intervention could have attracted more respondents. One parent comment on the lack of response:

If we could only get them (parents) through the door they would love it .A lot of parents lack confidence (P parent B1).

In contrast observations from Primary C demonstrated the success of parents and children working together to produce meals. It is difficult to evaluate the confidence levels of the pupils in the primary groups because the tasks set by the facilitator took account of the age and experience and provided appropriate tasks. Secondary pupils had a higher confidence and skill level which could have been accounted for because of familiarity of the room and equipment.

The groups demonstrated a range of complex skills in the area of food provision and organisation and management and although promising, the overall effects of the intervention remains to be seen whether this is effective long-term. This approach to influencing food choice could be seen as one way to encourage partnership between parents and schools in the promotion of healthy eating. It is only one piece of the jigsaw. The findings may question the value of the intervention in relation to whether it lasts long-term. The data suggests that different groups need different intervention strategies and that one size does not fit all. The intervention model meets the needs of the Health

Promoting Schools initiative and emphasis must be given to the involvement of parents to ensure success.

8.7 Summary

This chapter has been concerned with analysing the findings from the data in the study in relation to the research questions. It was established that both parents and pupils in the study cohort had their own particular view on what influences food choice. These views were often in conflict. The findings from the study show that influences on children's food choice changes from primary to secondary school where children are perceived to have more choice and control out-with the family. The focus on family members in relation to influences on food choice is also reported in the findings but female parents/carers play a key role in shaping and influencing the type of food bought for and served to their child.

Finally the findings from the designed intervention aimed at improving cooking skills and food knowledge provided parents and pupils with the opportunity to work together and learn from each other in an educational setting. It is beyond the scope of this study to evaluate over time whether attitudes to healthy food have changed. Evaluations after the event and beyond were positive especially in two of the primary schools who are in the process of developing a small-scale intervention based on the health promoting schools concept. The researcher was able to establish a healthy eating group in secondary school with pupil members of the intervention group. The task was to promote and encourage healthy food choice in conjunction with the school cafeteria who used the recipes from the intervention. The popularity of the food will be monitored and evaluated over time.

Chapter 9 will draw together conclusions from the overall research study.

9 Conclusions

9.1 Overview

The previous eight chapters relate to a case study with action research which developed over a number of years. It has illustrated the complexities of influences on food choice a propos parents and their children. The present study has presented multiple perspectives held by parents and young people on aspects of food choice. No research per se can be said to be definitive; therefore the conclusions are cautiously presented. Within these limitations, the implications of the findings of the study for policy makers and practitioners identify opportunities for possible further research.

The review of literature in Chapter 3 highlighted several educational policy initiatives implemented in schools to improve the health and eating habits of children and young people. It is hoped that this study will help school managers and policymakers identify issues relevant to their context. Extending this argument presents one possible solution to the problem, by highlighting the need for food education in schools to help bridge the gap between the knowledge children receives and the relevant skills to put it into practice.

While there has been positive progress in the quality of food provision and food based activities particularly in pre-school and Primary schools in Scotland, the fact remains that obesity and other diet-related illnesses are still on the increase. It has been argued in this study that meeting dietary and nutritional requirements throughout childhood is essential for health, behaviour and full intellectual development and that an inadequate diet may compromise learning ability and affect behaviour (Dani, Burrill & Demming-Adams, 2005). The study has presented multiple perspectives on the views of parents and young people on influences on food choice.

Schools need to find ways of using this information to encourage parents to become more involved in Health Promotion so that these important messages are taken into the home. It was clear that some parents would like more information and guidance on food suitable for packed lunches and also the type of food available in schools. This must be done in a sympathetic way, so that parents are asked for their views and feel valued for their contribution.

The researcher was able to investigate studies in the literature which argue that diet and physical activity patterns are two modifiable lifestyles that need to be influenced as soon as possible, targeting all and not just those who are already overweight. This is beyond the boundaries of the present work, but it would be a good basis for further work. The public health Minister for Scotland (2008) announced that over the next three years some £56.5 million would be spent on obesity prevention, healthy eating and physical activity initiatives with nearly £5 million being spent on anti-obesity drugs. Criticism was also levelled at the Scottish Government's failure to set a deadline for the implementation of new P.E. guidelines for schools.

Robinson *et al.'s* (2000) study argued that the Government could not expect people to take control of their health if they do not know how to cook, shop and discriminate between one food and another. Providing food education in schools crosses the social divide and could be the key to tackling these increasing dietary problems by giving individuals the information and skills to make informed healthy food choices (James, 1998).

In the UK the Health Select Committee (2004), identified education as a key factor in the development of good eating habits in children. It was seen as a way forward in the drive to tackle obesity and improve long term health (Bullen, 2004). The school system represents an affordable mass reach option for Scotland. No other medium has as much continual contact with children and their families and provides key areas to focus on strategies to improve children's nutrition and physical activity participation (Inglis, Waters & Sewell,

2003). To ensure this food education is truly effective, the Scottish Government must acknowledge that children need to make a connection between having a healthy diet and knowledge of food, where it comes from and how to prepare it.

At present most schools in Scotland include Home Economics on the curriculum in the first two years of secondary schooling. Pupils are taught Food and Nutrition as part of a wide reaching technological mode. After second year the majority of schools offer this as an option at Standard Grade only. A close examination of Home Economics on the school curriculum would be an interesting study to help establish where and how food knowledge is taught and whether it addresses the present dietary health issues.

An initiative in the process of being introduced into the Scottish Education System, *A Curriculum for Excellence* (Scottish Executive, 2006) is designed to streamline the curriculum and offer a structure for development and learning from 3-18 years. The focus is on enriching the learning experience for all pupils and incorporates a variety of purposes, values and principles. At the core of which is the statement that the aspiration is for all children and for every young person to be successful learners, confident individuals, responsible citizens and effective contributors to society and work.

This study argues that the way forward is to use the opportunities which exist within this educational policy, to change attitudes to health by offering essential food education at every stage within the core curriculum.

Food education forms part of the core curriculum in Swedish and Finnish schools. The role of Home Economics in schools in the former is identified as having a part to play in improving health and food education within the school curriculum (Ferri, 2004).

If potential barriers are to be overcome, this role needs to be taken a step further by teaching children how to cook and prepare nutritious meals at home.

It could be argued that the lack of these skills has resulted in a generation which does not have the most basic of cooking skills.

However, the inclusion of food education, which incorporates practical food preparation skills on the curriculum at every stage of a young person's education, has a political dimension. Politicians, not academics, decide priorities for education and the former may also be less receptive to including another subject on the curriculum when a great deal of funding is required to introduce the initiative and make it work.

Another barrier could be failure on the part of some experts to recognise that attitudes and behavioural changes must start with education. Such forward planning, given the potential NHS savings resulting from it, would be a cost effective means of preventing diet-related illness.

Debate already exists as to how local authorities in Scotland are to finance a 2008 pilot scheme for a free meal service for primaries 1-3 given that funding will be required to be diverted from other prioritised initiatives.

Making life changes necessary to improve the health of young people in Scotland is a challenge. Time is the biggest challenge of all in translating policy into practice in schools. Improvement requires attitude change and changes to practice and staff training in schools. It is now time to link policy and practice by ensuring consistency in the approach to food and nutrition messages. It is not enough to provide good nutritious food in schools if pupils do not know how to cook and prepare such food at home. Programmes continue to be implemented in Scotland to help individuals make healthy eating choices. An approach to health promotion which incorporates basic food preparation skills is an essential requisite.

The evidence from this study indicated that parents would like more information about food available to their children in schools. Parents also stated in the findings that they would like advice about the type of food suitable for

packed lunches. The dietary intervention in the study is one approach to food education involving parents and children in an educational setting. Policy makers could also explore this method as a way of involving parents in health promotion.

Discussion with children and parents on factors affecting food and lifestyle choices has been part of this research study. Pupils showed a willingness to give their viewpoint and be part of group discussion on aspects about eating choices. These important messages should be used to plan the curriculum to include practical food preparation skills for every young person at every stage of their secondary school experience. Only by embedding these life-skills in an educational setting can policy makers and politicians ensure that they become a natural part of the life of every young person irrespective of socio-economic status. The study also argues that if the initiatives already in place and designed to improve the health of young people are to be truly successful, the gap between knowledge and practice must be bridged. This is the *sine qua non* for both politicians and academics.

The literature on health promotion recommended partnership with parents. The evidence presented from the intervention programme has been piloted and evaluated to assess effectiveness. Within the parameters of this study, it is not possible to provide a long-term follow-up. However, the implementation and development provided a workable solution to encourage parents, schools and teachers to take a more pro-active role in health promotion.

The Scottish Government should provide more funding to put these measures into practice in schools to help people in Scotland to take a more active role in healthy eating.

This study has argued that food education is the key to changing the attitudes and behaviour of children; to enable them to make informed decisions about the foods they eat. This includes recognising the value of Home Economics as a

subject by ensuring that it becomes part of the core curriculum wherein extra time is devoted to food preparation skills for every year group in the Secondary sector. The approaches of *Hungry for Success* and *The Curriculum for Excellence* offer many opportunities for this to be related to practical food knowledge.

The Scottish Government needs a different approach. We need some objective thinking about the best way to approach food education to ensure, that every child in Scotland has an equal opportunity to access information and not just those in areas lucky enough to receive extra funding.

Simple nutrition and food skills should be part of the primary school curriculum with parents and children engaging in healthy eating activities with fully trained teachers. All teachers, regardless of subject area, should be given some training in cross-curricular food-based activities so that children could be taught the value of good food in their diets and the importance of healthy eating.

The prevention of diet-related illnesses allied to long-term economic benefits, accruing from savings to the National Health Service, are surely convincing and persuasive arguments for policy makers and politicians.

However, it is important not to expect dietary interventions solely to tackle what are bigger, cultural and societal problems connected with food choice and to acknowledge that it is merely part of the jigsaw (Stead *et al*., 2004).

Regarding the prevention of obesity and other diet-related illnesses in children, final recommendations should come from the National Institute for Health and Clinical Excellence (NICE, 2008):

Ensure that school policies and the whole school environment encourage physical activity and a healthy diet and train all staff in how to implement healthy school policies.

9.2 The Contribution of this study to educational research

The contribution to the sphere of research within the context of factors affecting food choice in young people and their parents lies in three particular areas.

Firstly, in relation to the methodology, the research model shows significant possibilities of this approach for the practitioner-research. Robson (2002) describes Real World Research as *messy*. The implementation of this type of study is not easy and is fraught with internal issues, but the research is justified because it sheds more light on this important issue often neglected as an important life-skill. The qualitative nature of the work offers a valuable insight into children and young people's views on food choice which can be used for further improvements in the curriculum and food provision in schools.

The cyclical nature of the action research in the intervention programme provides a structure that can be adapted for use in other schools interested in working with parents in Health Promoting activities to improve children's eating habits. The use of locally sourced fresh Scottish foods could be used in schools to encourage children to develop a keen palate and knowledge of food. This could be in conjunction with Home Economics departments in schools, which, given the proper resources, could provide cooking skills to enable pupils to try dishes at home. It is the opinion of Lang & Carraher (2001) that there is little point in purveying nutrition advice and tips on healthy eating if people lack the skills to implement them.

Secondly, the main contribution of the present study, to new theoretical knowledge, derives from the fact that the involvement in Scotland of parents

and children had not been investigated in an educational setting. The present study was able to observe the relationships between parents and children in the context of food choice and present qualitative evidence, which is rich in detail. The strength of an approach that was informed by qualitative methods is that it allows new and hitherto unexplored ideas to emerge.

Thirdly, the extensive review of literature, while dominated by health related issues on food choice, also shows the emergence of progress reports and evidence from schools by HMIE (2008), on food provision in schools, which have been used to share good practice. The study shows, however, that schools require support and resources to implement additional strategies to inform parents of the initiatives already in place in schools. Working in partnership with parents is vital in any strategy for promoting healthy eating in children and young people. The crucial role of parents in shaping food choice should be recognised. It is important that parents are given accessible, realistic information on packed lunches and food in school and that this information should be linked to *Hungry for Success* and Nutrition and *Health Promoting Bill Scotland.* This can be done by means of guidance on healthy eating, school menus and class-based activities using school websites and newsletters.

The evidence from this study reiterates that children's food related knowledge, preferences, and food consumption are related to parent's preferences, beliefs, and attitudes towards food (Birch, Zimmerman & Hind, 1980). An example of this is availability of food in the home, which also shapes dietary preferences particularly the consumption of fruit and vegetables. If such food is regularly presented at meals they are more likely to be eaten (Domel *et al.,* 1993).

9.3 Limitations to the study

It must be acknowledged that there were limitations to this study. The sample size was confined to parents and children of a certain age. The participants in this study came from only one secondary school and small numbers in the

primary sector. The results therefore cannot be generalised to other parent and child populations' .A longitudinal study or a larger sample over an extended period of time to observe the case study would have been desirable. However, the in-depth quality of the data obtained from the case study presented in this thesis was a rich source of information from parents and children.

The time available for the intervention programme was also an issue but accommodation and financial constraints prevented a longer timescale to establish a more thorough evaluation. However the time permitted and resources available were sufficient to complete an appropriate evaluation point.

9.4 Further research

In common with all research studies, the present work has inevitably been highly selective in its focus, but nevertheless it has identified gaps in the knowledge and understanding of these complex issues, and therefore scope for future enquiries such as:

- To examine the quality of the provision of food knowledge on Secondary School curriculum in Scotland in the light of *A Curriculum for Excellence*.
- To examine the implementation of *Hungry for Success* from a pupil point of view.
- To examine pupil's food consumption across the day in a more detailed way to include fast food outlets.
- To evaluate the effect of a school intervention programme to encourage healthy eating involving parents and pupils over a longer period of time.

9.5 Future directions for the intervention

The intervention in this study was designed to be adapted for use with parents and children working together or with parents alone. The model could also be

developed for use with senior pupils to teach basic food skills prior to leaving school.

To evaluate the impact of the intervention a longer time frame is recommended to allow for a re-visit to assess whether the skill areas and food knowledge have increased. A structured programme of up to six to twelve weeks of practical food preparation with a follow-up period of three to six months to assess the impact of the intervention should also be considered. It may be helpful to vary the timescale with different groups to allow comparisons to be made.
The use of quantitative methods to record data from the proposed intervention could make a valuable contribution to the presentation of results in the study.

9.6 Reflections on personal and professional development

Researcher's note: to engage fully with this very personal part of this thesis the reflection will be written in the first person. The reason for this change in syntax is simply to enable me to personally direct my thoughts to the process of research and the events involved in the preparation of this thesis.

Rowena Murray describes the professional doctorate as:

… emphasising personal and professional development, within the context of any professional context (Murray, 2002, p.33).

Ipsis factis, this academic journey has resulted in my being more reflective in both thoughts and actions vis-à-vis the ability to communicate findings in an academic context. This context is extremely important because it helps raise an awareness of the subject of the knowledge of food and asks where this knowledge comes from. Regarding nutrition and food preparation skills on the school curriculum, the implications for Educationalists and the Scottish Government are self-evident i.e. the school curriculum in its present form falls

short of meeting the needs of Scottish schoolchildren. These implications need to be properly focused in another study.

9.7 My own professional development

The research undertaken has enhanced my professional development in that it has given me the confidence to share my knowledge in print and on public platforms as and when the occasion arises. The thesis has enabled me to make a contribution to the body of knowledge and practice in the area of children's food choice.

The completion of the research has involved a substantial amount of critical reflection about my own professional development, values and aspirations.

My newly acquired expertise in research dimensions has facilitated access to other relevant areas of education such as the psychology of parental food choice. The importance of listening to parents and young people cannot be under-estimated, the different perspectives resulting from such interchanges lead to a better understanding of the substantive issues.

The positive effect on my personal development is also measurable in that it has enhanced the objectivity and subjectivity of my interpretative and communication skills.

A professional doctorate can be seen as a measure of intellectual autonomy and the ability to facilitate research skills. The analysis of research data and the discussion of issues relating to the latter are presented in this thesis as evidence of intellectual autonomy.

A key factor in sustaining me through the doctoral process was my passion for the subject matter and the excitement of accessing new pieces of research evidence to contribute to the academic debate.

The final chapter of the thesis has summarised the contribution of the work to the research in this important area and the implications of the work for educational policy and practice. These implications were identified in particular: the need to provide food education in schools at every stage to meet the needs of each life course e.g. promoting breast-feeding as the norm for mothers; promoting food-based activities in primary schools and making food preparation skills compulsory for all secondary pupils.

Dr. Alexandra Richardson's words (2006,p.8) proved to be inspirational:

Food and diet really is the key to making the most of your child's potential, both mentally and physically. We are what we eat, and our children are what we feed them.

To change eating habits in Scotland, it could be argued that a paradigm shift at societal and government levels is needed to arrest the growing problem of diet-related illness. It is not enough to give parents information to help change eating habits. They must also be provided with the knowledge to put this information into practice. Few interventions are truly simple, and the number of components and range of effects may vary widely (Craig, *et al.,* 2008). The dietary intervention framework in this study is intended to offer practical ideas on food preparation to help support both young people and family food choice. It is designed to work in tandem with Hungry for Health and the Health Promoting Schools initiative. It is not intended to be the ultimate solution to encouraging healthy food choice in children.

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Appendices

Appendix 1: Permission Letter

Appendix 2: Thesis triangulation data collection matrix. Data Source

Research Questions	Sources	Sources	Sources	Sources
1.What has been written about the eating habits of young people and their parents?	Online data bases ERIC, ATHENS MEDI-LINE	Journals articles	Conference papers	Government publications
2.What are the stated dietary habits of a specific group of young people and their parents in three Primary schools and one Secondary school?	Parent Questionnaires	Food diaries	One-one interviews with Head-teachers	Focus groups Children
3.What do a specific cohort of parents and young people consider to be the main influences on their food choice?	Semi–structured one to-one interviews	Focus groups Adults	Focus groups Children	
4.What is the impact on food choice of an intervention programme in a specific cohort of adults and children?	Active Participant Observation	Evaluation forms	Literature Review	

Appendix 3: Framework for Planning Research

Model	Purposes	Foci	Key Terms	Characteristics
Case Study	To portray, analyse and interpret the uniqueness of real individuals and accessible accounts	Unique instances Individuals and local situations	Individuality, uniqueness In-depth analysis Specific situations	In-depth, detailed data from wide data sources What can be learned from a particular case
Action Research	To plan, implement, review and evaluate an intervention designed to improve practice and solve a local problem	Outcomes of interventions Participant empowerment	Action, evaluation, Intervention, empowering, planning and review	

Appendix 4:Ethics Form

Appendix 5: Participant Information Sheet

Information sheet and Invitation to Join the Study

Research Title: Factors affecting food choice in a small group of young people and their parents in Scotland. A study of the Impact of an Intervention programme.

Researcher: Annette Ferri, …High School, and the University of Strathclyde.

Telephone. (01698 733905)

Invitation to Take Part

You are being invited to take part in a research study. Please take time to understand why the research is being done and what it will involve for you if you decide to take part. I will be available to answer questions related to this project by contacting me at the above address/telephone number.

What is the purpose of the study?

Much research has been done into the eating habits of children. As part of a study last year I did a comparative study of the eating habits of young people in …………….and a school in Sweden. As a result of this, some valuable information was obtained to give a clearer picture of what children in Scotland were eating compared to young people in other countries.

I would like to continue my studies to enable me to gain a deeper understanding of the reasons why children make certain foods choices.

What will happen if I decide to take part?

You would be asked to complete a questionnaire on shopping and eating patterns in your family.

You would be invited on a voluntary basis, to take part in a discussion group.

You would have the opportunity to be interviewed about eating trends.

Do I have to take part?

No. You are free to choose to take part or not. Even if you agree to take part and later change your mind, you can withdraw at any time.

What will happen to the information?

The results from the study are confidential. Neither you or your child's name or School will be mentioned.

This study results will help to ensure young people in your community and throughout Scotland obtain the correct support to enable them to make healthy food choices.

Appendix 6:Parental Consent

Title of Research: Factors affecting food choice in a small group of young people and their parents in Scotland. A study of the impact of an intervention programme.

Researcher: Annette Ferri Telephone (01698 733905)

Dear Parent or Guardian,

You kindly consented some time ago to take part in the above research programme.
Further to this I am inclosing a questionnaire, which I would ask you to complete and return to your child's class teacher.
Please note you are free to comment on any area you see fit.
I assure you once again that any information you provide for this research is in the strictness confidence. The outcome of all the questionnaires will be reported in a Doctoral thesis however, neither the school, your child/children or yourself will be identified.
The questionnaire should be returned in the envelope provided by…………

I have also included in the questionnaire, some information on healthy eating sessions. These will take place in May or June and if you are interested, I will supply more information nearer the time.

Yours faithfully,

Annette Ferri 01698 733905

Appendix 7: Questionnaire

Draft copy

Appendix 8:Food Diary

Appendix 9:Sample Food Diary

Appendix 10:Interview Matrix

Draft copy   **Date:………   Interview code number:……..**

Commence with introduction and explanation regarding study to eliminate any questions.

(Consent, confidentiality, recording can be stopped at any time)

Influences on food choice	*Peers*	*Parents/carers*	*General comments*
Is role changing	*Food in school*	*Food information/education*	*General comments*

Appendix 11:Prompt Sheet

Theme: **Group:………**   **Date:…….**

- Introduction

- Explain purpose

- Remind participants about confidentiality/reassure pupils/parents that they are free to answer if they feel confident and happy to do so.

- Check consent and method of recording

- Ask if they have any questions

- Labels for identification

Q 1: What do you think is the biggest influence on your/your child's food choice?

↓

Probe: **Why do think this is?**

Q2: When you shop for food do your children go with you?

↓

Probe: Do they influence what you buy? /Pupils do think you   influence your parents?

Q3: Where does this influence come from? (Alter vocabulary suitably).

↓

Probe: Television/magazines/others?

Q4: Do you think the school encourages good food choices?

↓

Probe: Are you happy with the selection of food available?
End: Any other points you would like to make?

Appendix 12:Example of Field Notes Matrix

Draft copy

Date: **Code:**   **Data Collection:**

Shopping	Eating Habits	Have they changed?	Comments
Problems encountered	Good points	Bad	Comments
Group Harmony	Perceptions	Suggestions	Comments
Further work	Time-scale	Suggestions	Comments

Appendix 13: Contents analysis sheet

Incomplete example.

Research Issue being explored-----------------------------------**Date**--------------------

Location---   **Group**-------------------

Specific data in use   Purpose   Themes   Conclusions
Comments

Parent Questionnaire	Demographics of study group. Eating trends.	Food: Parents control food purchased. Snack food popular. Soft drinks bought regularly. Fresh food bought. Fruit popular.	Presents report a balance of nutritious food bought on a regular basis.	Comparisons needed with pupil responses and food diaries.

Adapted from M.B. Miles, A. M. Huberman.pp.283

Appendix 14: Observation Grid

Draft example :Observation Grid for Intervention

Date	Group	Food Prep	Organisation	Confidence	Attitude	Next Week	

Criteria for observation grid

Food Prep	Organisation	Confidence	Attitude	New Ideas		Next Week	
Shows basic skills e.g. correct utentials, measuring, weighing food	Follows recipe Tidy Manages oven and hob	Works on their own asks questions	Listening enjoying interested	Open to change		What do we change?	